Executive Summary

Background

The Royalty Management Program (RMP) of the Minerals Management Service (MMS) is responsible for ensuring that all revenues from Federal and Indian mineral leases are efficiently, effectively, and accurately collected, accounted for, verified, and disbursed to appropriate recipients in a timely manner. These revenues amount to more than $4.5 billion annually. In addition to a broad range of financial services, RMP also operates a comprehensive compliance strategy that includes an automated compliance verification program to validate the accuracy and timeliness of revenues paid, and an audit program staffed by MMS, State and Tribal auditors.

In April 1996, RMP undertook a compliance reengineering initiative to examine the current compliance strategy and determine the best approach for accomplishing future goals and objectives. The principal reengineering objective was to define and implement a new compliance strategy that satisfied, in the most cost-effective manner possible, the compliance program's primary purpose of ensuring that Federal and Indian mineral lease revenues were accurately and timely paid.

In August 1996, the Federal Oil and Gas Royalty Simplification and Fairness Act of 1996 (RSFA), was enacted into law. This law amended the Federal Oil and Gas Royalty Management Act, the Outer Continental Shelf Lands Act, and the Mineral Leasing Act. In so doing, RSFA significantly changed many of RMP's historical operating assumptions as well as some fundamental Federal oil and gas mineral revenue financial activities. Although near-term changes in processes and systems needed to be made to implement the law, it was clear to RMP managers that longer-term strategies, business processes and aging systems must be addressed for RMP to be cost-effective and responsive to customer needs. The decision was made April 1, 1997, to go beyond compliance reengineering and instead conduct an in-depth reengineering of all RMP core business processes. This is the most comprehensive review of the RMP's business processes and organization since its creation in 1982.

The Preliminary Design Report

This document presents the findings and preliminary design concepts for future RMP processes and support systems. The concepts are based on technical and analytical studies performed or commissioned as a part of the reengineering initiative, past studies and recommendations prepared within the MMS, and studies and recommendations presented to MMS by the Royalty Policy Committee (RPC), the Office of Inspector General (OIG) and others. The more significant documents are identified in the Appendix.

The Reengineering Approach

The first steps in the RMP-wide initiative involved establishing the project management structure and assembling and training a multi-disciplinary design team with representatives from all functional areas of RMP, MMS' Office of Policy and Management Improvement, and the State and Tribal Royalty Audit Committee. The

work of the design team was guided by a charter which was developed by RMP senior managers. Business process reengineering (BPR) consulting services are being provided by Gene Rouleau and Associates, Inc. Additionally, Performance Engineering Corporation (PEC) is supporting the initiative in areas of information technology and BPR.

The design team first examined the current RMP business environment beginning with an intensive mapping of its "as-is" process. This was augmented by an in-depth assessment by PEC of the automation infrastructure supporting the existing business processes. The design team conducted extensive benchmark surveys of other public and private enterprises within and outside the United States to identify "best practices" for consideration in the design of future RMP processes. In addition, the design team examined prior studies and recommendations prepared by MMS, RPC, OIG and others. Throughout the initiative, the design team is consulting with employees, industry, States and Indian Tribes about the efficiency and effectiveness of current RMP processes and viable alternatives for managing royalty revenues in the future.

Expectations for the Future RMP Business Processes and Support Systems

Development of the preliminary design concepts contained in this report was guided by design parameters and performance stretch goals defined by RMP senior managers. Specifically, the future systems and processes must be capable of:

- Supporting the collection of royalties both in-cash and in-kind.
- Supporting delegated activities related to royalty administration.
- Permitting the use of a variety of methodologies to value production.
- Permitting RMP to provide related financial services for other customers through franchising arrangements.

Performance stretch goals are an integral part of any BPR effort. The performance stretch goals defined by RMP managers are:

- Assure compliance with applicable laws, lease terms, and regulations for all leases in the shortest possible time, but no later than 3 years from the due date.
- Provide revenue recipients with access to their money within 24 hours of the due date.

Stretch goals, by definition, cannot be achieved with existing processes. Management established these goals to challenge the design team in its exploration of new processes and ways of doing business that would be needed to accomplish desired outcomes. Achievement, or significant progress toward achievement of the stretch goals, would mean dramatic change for RMP.

The design team was also guided by the following parameters in the development work:

- Current laws will continue to apply.
- RMP regulations can be changed.
- Reporting requirements should be simplified.
- New work processes should cost less than the current equivalent mission costs.

Challenges Needing to Be Addressed

The design team identified key issues in three areas of RMP's current operations that must be addressed to achieve the performance stretch goals and parameters of the envisioned future RMP. These areas are: organization and business processes, automation infrastructure, and information needs.

Organization and Business Processes

The RMP is function-based in terms of its business processes and the organization structure to manage those processes. By design, RMP's business cycle lasts 6 or more years from the time that a royalty payment is due to the time that the RMP ends its work and is satisfied that the royalty payment was correct. Many organizations in the public and private sector that are comparable to RMP complete their business cycles with the minerals industry in half the time. The many benefits to be gained from reducing business cycle time led RMP's senior managers to set the stretch goal of 3 years which is more representative of expected performance in the industry.

The RMP of today is comprised of function-based processes and layered organizational structures that often constrain RMP's employees from timely and effectively coordinating or sharing the results of efforts to address and correct royalty reporting and payment problems. To overcome existing constraints, fundamental changes are necessary in the current "functional" alignment of business activities as well as the organization that supports those activities if the future RMP is to be the "best" in its class of service. These needed changes are not just to eliminate existing overlaps, redundancies, waiting time and other inefficiencies in the current work; they must be made to fundamentally enable the RMP to efficiently organize, prioritize, decide, and do work that is centered on outcomes. The RMP must, in the future, be able to quickly engage its business enterprise and focus its resources, in end-to-end processes, at the most logical asset management level: the producing property that gives rise to the royalty payment. This capability must be able to address the royalty payment whether made in-kind or in-value. Furthermore, RMP must become an efficient knowledge manager, timely gaining, maintaining and leveraging information to accomplish its business goals.

Lastly, RMP must more fully capitalize on the outstanding talents, education and broad experience of its workforce. The RMP's current operational approaches and processes often constrain employees from participating in the royalty process as a whole. The RMP needs to change its existing hierarchy and engage its workforce

in multi-disciplinary performance-based teams that can fully integrate their talents and knowledge to expedite all facets of work; be highly responsive to customers and constituents; and produce superior work within a demanding schedule.

Automation Infrastructure

The RMP's mainframe-based systems, while operative, are obsolete. The current systems were designed and implemented in the early to mid-1980's. These systems have been continuously modified ever since. The cumulative effect of ongoing change and new mission requirements is an increasingly complex and inefficient systems environment. The risk of systems failure is growing, the cost of operations and maintenance is high, and the responsiveness of the systems to change is low yet costly. Recent reports by the OIG and PEC confirm the condition of the systems and the need for modernization. Simply stated, the existing systems will not support the reengineered business processes envisioned. The RMP must make significant investments in its automated support systems to implement reengineered business processes for the future.

Information Requirements

Information is critical to RMP in meeting its mission. The information that will support future reengineered processes must be of the highest quality and gathered in the most efficient manner. The RMP routinely obtains information from a variety of sources. The majority of the information is received through required royalty-related and production-related reporting forms submitted by royalty payors and lease operators. Basic information related to leases is provided by surface management agencies including the Bureau of Land Management (BLM), the MMS' Offshore Minerals Management (OMM), and the Bureau of Indian Affairs (BIA). Although current reporting requirements will satisfy most of the future information needs, improvements are needed. Existing report forms and requirements need to be modified to increase the efficiency of data gathering and reduce future costs to RMP and industry. The RMP must continue to pursue its current initiative to maximize the use of electronic information reporting. Furthermore, improvements are needed in the quality and timeliness of information obtained from BLM and BIA as well as the electronic interfaces through which it's received. Lastly, additional market information will be needed to support future reengineered processes. The RMP must be able to better understand producing properties, the physical infrastructure that handles production, the markets served, and realized values. Some of the information is currently maintained by Federal and State agencies. Additional information will come from lessees, purchasers and facility operators on an as-needed basis. Generally available industry market data, third party, and team generated data will supply the remainder of the information.

The Preliminary Design Concepts

The following preliminary design concepts will move RMP toward achieving the performance stretch goals and parameters desired for the future RMP. The concepts are grouped into three areas: organization and business processes, automation infrastructure, and information needs.

Organization and Business Processes

- **Organize and manage RMP work in end-to-end core business processes**

  Two end-to-end core business processes are envisioned for the future RMP. The financial management process and the compliance and asset

management process. The financial management process will receive and process information and money. The compliance and asset management process will ensure that all revenues, whether received through in-kind or in-value royalties, are accurately reported and paid and that the compliance status of all leases is known.

•Retain a centralized financial management process

The financial management process will focus on payors, operators, Federal and State agencies, Tribal governments and allottees for information and money flow. The process will be supported by a true automated accounting system which features double-entry accounting, end-to-end accountability for funds, integrated reporting, system generated financial statements, and more rapid and user friendly access to financial data. A commercial off-the-shelf accounting package will be explored to achieve these ends. Other financial management activities such as billing, payment application, and distribution and disbursement will be extensively automated and supported by workflow and case management systems.

•Institute regional basin groups that are accountable for the compliance and asset management process

The regional basin groups will focus on defined oil and gas producing areas and the properties located therein. The groups will manage a full range of compliance and asset management activities, including product valuation, market analyses, verification, and audit. The groups will be responsible for identifying and acting upon opportunities for taking royalty in-kind that serve the business goals of RMP. The groups will structure analytical capability at the same level that the industry operates, the property and producing area. They will leverage knowledge of producing areas including the physical infrastructure of gathering and transportation systems and processing plants, markets served and prices realized, buyer-seller relationships, and numerous other factors. The groups will be accountable for leases being and staying in compliance. A similar commodity-based approach will be applied for solid minerals compliance.

State-of-the-art automated tools must be developed to support the compliance and asset management process. The principal feature will be a dynamic data verification concept. The RMP will use a relational data base

management system and new automated capabilities to construct the data network infrastructure which will allow RMP, State, or Indian analysts on basin teams to: interact with a variety of data concerning leases, properties, payors and operators in evaluating royalty amounts; selectively analyze leases and properties by using sensitivity parameters and trend analyses to highlight abnormal royalty or production data; initiate resolution actions; and institute audit procedures. Dynamic data verification will rely on a variety of information data bases, including geographic information systems,

and will permit input of RMP developed data and third-party data. This will provide a detailed picture of the basin environment. It will also be the primary means for assuring that leases are and stay in compliance. Furthermore, it will support asset management decisions related to whether an in-kind or in-value strategy for given properties or producing areas best serves RMP business goals.

•Utilize performance-based teams to the maximum extent possible in developing the organization to work the end-to-end core business processes

Teams are the typical means of implementing reengineered business processes. The newly reengineered organization will bring together expert personnel from various functional entities to work together in end-to-end processes. The design team believes that forming these personnel into performance-based teams will further leverage the operational efficiency gains achieved by moving to the end-to-end processes.

Automation Infrastructure

- **Apply technology to new and existing business processes to achieve mission performance objectives**

The RMP must modernize its existing systems infrastructure to implement new business processes. The focus will be on providing data access to RMP and customers utilizing state-of-the-art data capture, transmission and analytical tools. Integration of the automation infrastructure will allow RMP, State, or Indian analysts to utilize RMP data. Reliance on a single data repository will reduce duplication of effort, redundant systems and locally developed solutions and allow RMP to become both more efficient and more effective. The RMP will base the future infrastructure around a relational database management system that supports on-going operations through on-line management of the royalty and production data captured by RMP; availability of on-line analytical tools; and access to historical data in legacy systems. Other important aspects of the needed infrastructure are explained below:

•Implement workflow/case management systems to support end-to-end process focus

An automated workflow/case management system will support analysts who have end-to-end responsibilities for properties and their associated royalty payments. Workflow can automate transaction processing and prompt analysts when an action is necessary. It can also maintain workload statistics, assist in workload distribution, provide a single source for case specific information, and manage image files.

•Use Internet/Intranet technologies to ease data access/transmission

The RMP will capitalize on the capabilities of the world-wide web to support easy access to and transmission of data.

•Implement a commercial off-the-shelf accounting system

The RMP plans to implement a commercial accounting system which can process funds, track debits and credits, support electronic data interchange and electronic commerce, and produce RMP's many required accounting and financial reports. It will also support accounts receivable and collections processing and allow analysts to work in a user-friendly, graphical user interface based environment.

•Implement imaging/document scanning

The RMP will implement expanded imaging capabilities to speed access to current and historical information.

•Use automated tools to provide electronic checks and balances and improve analytical and information sharing capability

Automated capabilities will be used to track who makes financial data changes and when, and to reduce manual effort associated with separation of duties. Other automated tools such as geographic information systems, interactive voice response systems and on-line analytical processing tools will also be deployed to improve analytical and information sharing capability.

Information Needs

- **Make improvements to regulatory information reporting requirements of payors and operators to increase efficiency and reduce errors**

After reviewing RMP's existing information collection requirements, future information needs for reengineered processes, and recommendations made in the May 1996 Royalty Policy Committee report, "Royalty Reporting and Production Accounting," we believe the following major improvements need to be made. Other changes are included in the body of the report.

•Eliminate Payor Information Form (MMS-4025)

This form is currently filed by payors to establish payor/lease references in RMP files and resubmitted whenever there is a change in lease information. The form is confusing and error prone and RMP can obtain the needed information elsewhere. This will directly decrease information collection costs and error correction activities for payors and RMP.

•Modify Report of Sales and Royalty Remittance Form (MMS-2014) and associated reporting requirements

This form is used to report and pay royalties to RMP. The changes contemplated will increase the information gathering efficiency and significantly reduce information collection costs to payors and RMP. These changes are detailed in the report. Design work is continuing on certain aspects of the changes before final recommendations are made.

•Eliminate the Monthly Report of Operations (MMS-3160); simplify the Oil and Gas Operations Report (MMS-4054, OGOR); and use the simplified OGOR for both onshore and offshore

Currently there are different production reports for onshore and offshore leases. One simplified report form can serve for both onshore and offshore lands and would reduce cost of operations and potential errors.

•Eliminate the Solid Minerals Payor Information Form (MMS-4030) and the Solid Minerals Production Report Forms (MMS-4050, 4051-S, 4059, and 4060), and combine production and royalty information on one form

The recommended changes will increase information gathering efficiency and reduce the cost of information collection to payors, operators and the RMP.

- **Augment RMP's information infrastructure to support the dynamic data verification concept**

  Current regulatory reporting requirements provide the basic information to support the dynamic data verification concept. Additional information must be acquired by RMP to gain and maintain an understanding of the producing properties, the physical infrastructure that handles production, the markets served, and realized values.

Stretch Goals and Benefit Opportunities

The design team believes that the preliminary design concepts presented in this document will move the RMP positively in its development and implementation of new core business processes and support systems for the 21st century. The planned prototyping and testing of these design concepts and the underlying technology will serve to confirm viability and define resource costs and benefits.

Stretch Goals

Based on work done to date, the design team believes that the preliminary design concepts as envisioned will:

- Achieve the first stretch goal of assuring compliance with applicable laws, lease terms, and regulations for all leases in the shortest possible time, but no later than 3 years from the due date.

- Contribute to, but not achieve, the second stretch goal of providing revenue recipients access to their money within 24 hours of the due date. Several barriers currently stand in the way of achieving this stretch goal. The principal issues relate to the speed with which data supporting revenue payments can be processed to identify the appropriate recipient and accomplish the disbursement. Other issues such as reporting accuracy, ability of intermediaries to make funds available, and timely receipt of supporting documents also pose a challenge. The design team is continuing analysis of these issues and will identify the process changes necessary to accelerate revenue disbursement to the maximum practicable extent.

Benefit Opportunities

Potential benefits to be realized by RMP and customers include:

Organization and Business Processes

- A dramatic reduction in the RMP business cycle from 6 years to 3 years. This change will place RMP on a business cycle that is more closely aligned with the business cycle of the royalty payors. Benefits that will be realized by RMP, States, Tribes and industry include:

    - Accelerates cash flows through more timely identification of royalty underpayment issues.

    - Improves accuracy of reporting and payment of royalties, thereby reducing the overall cost of royalty administration to RMP and industry.

    - Ensures identification of emerging royalty payment issues which permits earlier resolution before the passage of time makes resolution more difficult.

    - Substantially increases efficiency and reduces costs in problem identification and resolution. Payor records access is improved when records have not been archived, and employees involved in the creation and use of the records in paying royalties are more likely to be available for assistance.

- Improves focus of RMP's resources and decisionmaking on its organizational goals, objectives, and desired outcomes, and its ability to establish accountability within the organization.

- Removes the current obstacles inherent in a functionally aligned organization through the process focused team approach. Depending on implementation strategy, one layer of management supervision can be eliminated.

- Increases confidence that royalties have been paid correctly. As compliance is confirmed on large segments of the lease universe, resources can be concentrated on leases and producing areas with suspected reporting and payment problems. As a result, compliance coverage can effectively be increased and reporting errors reduced. A variety of issues such as the royalty impacts of processing and transportation infrastructures, historically receiving little attention, can be addressed. Increased royalty revenues should be realized through real increases in compliance coverage.

- Enables RMP to have a current understanding of its leases, the production environment, markets served, prices realized, etc. For the first time, RMP will have the information and analytical capability to make asset

management decisions at the lease and producing area level, as to whether royalties should be taken in-kind or in-value.

- Allows RMP employees to better understand the broader royalty management process. They will be able to conduct in-depth analysis of all variables affecting royalties and more effectively acquire, manage and transfer this knowledge. One associated outcome will be the ability to determine and communicate lease status. Another is better integration of RMP compliance activities with BLM and OMM production verification activities. Finally, RMP staff will have a greater ability to become true resource managers.

Automation Infrastructure

- Establishes a technical architecture that will cost effectively support RSFA-based delegations, new reengineering design concepts and future franchising initiatives.

- Realizes many of the efficiencies and potential cost savings presented in recent reports of the OIG and others that call for modernization of RMP systems. The OIG report estimated savings of $2 million per year.

- Improves in many ways information access and sharing capability for RMP, States, Tribes and industry. For example, payors will, for the first time, have electronic access to their reported data as it resides in RMP's data base, thus reducing the need to use the current labor intensive Freedom of Information Act process.

Information Needs

- Simplifies reporting requirements and reduces reporting burdens for both industry and RMP. The design team estimates that oil and gas royalty reporting alone will be reduced 40 percent. The cost savings for the minerals industry is believed to be significant. The RPC estimated that RMP will save $1–1.5 million annually by adopting its recommended changes to reporting. We are adopting most of the RPC recommendations and recommending additional substantive changes in oil and gas and solid minerals reporting that will even further reduce costs.

Next Steps

This document presents the preliminary design concepts for the future RMP. The report incorporates senior management instructions on design criteria to use in proceeding with work leading to the final design document. Final designs are scheduled for completion in June 1998. Prototyping and testing of the preliminary design has begun and will continue through June 1998 and beyond. These activities will help to finalize the process design, demonstrate new technology, define the best performance based/team oriented organizational structure, quantify benefits and refine estimates on resource requirements. The design team is confident that the recommended end-to-end process designs, organizational structures, and

modernized automated information systems, once finalized and implemented, can enable the future RMP to deliver the very best royalty management services at the lowest possible costs. An RMP Reengineering Contract Support Team has been created to manage budget and acquisition processes involved in moving from design to implementation. The goal of the team is to complete those tasks necessary to award an implementation contract in FY 1999.

Table of Contents

Table of Contents (Cont'd)

page

Table of Contents (Cont'd)

List of Exhibits

1 Introduction

The Royalty Management Program (RMP) of the Minerals Management Service (MMS) has embarked upon a reengineering initiative with the principal objective being to design, develop and implement new core business processes, with supporting systems, for the 21st century. Unlike past initiatives, which addressed and incrementally improved existing operations, reengineering is more comprehensive in its approach and application. It challenges the underlying assumptions on which an organization is built and fundamentally redesigns processes, structures and systems around desired outcomes.

The design team emphasized RMP core business processes and as such concentrated its efforts on the seven main operating divisions—that is, Accounting and Reports Division, Compliance Verification Division, Royalty Valuation Division, and the Audit Divisions: Dallas Compliance Division, Houston Compliance Division, Lakewood Compliance Division, and State and Indian Compliance Division.

1.1 The Preliminary Design Concepts

This document presents the design team's recommendations for future process designs, support systems, and associated organizational structures. It gives the reader an overview of how RMP works today and how it can be improved for the future.

The new concept of operations presented in this document contains informational, technical and organizational changes to the current RMP operations. Some of the changes will be simple to implement, others will not. Implementation of the design concepts will certainly change the face of RMP. The organization and employees will be profoundly impacted by changes in the way operations will be conducted and organized; the new technologies that will need to be mastered; and the broad range of duties and responsibilities that employees will need to assume to meet future business objectives.

This document (and its related studies) espouses the management principles heralded in government today. The MMS is a long-time advocate of Vice President Gore's National Performance Review and a 1997 winner of the Hammer Award. The reengineering effort is also embracing the concepts in the Government Performance and Results Act that state that changes implemented in government must withstand the tests of a practical benefit vs. cost analysis. That is, if a good business case can't be made, don't implement. The RMP intends to adhere to these management principles throughout this reengineering effort.

1.2

The RMP is responsible for ensuring that all revenues from Federal and Indian

Background

mineral leases are efficiently, effectively, and accurately collected, accounted for, verified and disbursed to appropriate recipients in a timely manner. These revenues amount to more than $4.5 billion annually.

In addition to a broad range of financial services, RMP also operates a comprehensive compliance strategy that includes an automated compliance verification program to validate the accuracy and timeliness of revenues paid, and an audit program staffed by MMS, State and Tribal auditors.

In April 1996, RMP undertook a compliance reengineering initiative to examine the current compliance strategy and determine the best approach for accomplishing the future goals and objectives. The principal reengineering objective was to define and implement a new compliance strategy that satisfied, in the most cost-effective manner possible, the compliance program's primary purpose of ensuring that Federal and Indian mineral lease revenues were accurately and timely paid.

In August 1996, the Federal Oil and Gas Royalty Simplification and Fairness Act of 1996 (RSFA) was enacted into law. This law amended the Federal Oil and Gas Royalty Management Act, the Outer Continental Shelf Lands Act, and the Mineral Leasing Act. In so doing, RSFA significantly changed many of the RMP's historical operating assumptions as well as some fundamental Federal oil and gas mineral revenue financial activities. Although near-term changes in processes and systems needed to be made to implement the law, it was clear to RMP managers that longer-term strategies, business processes and aging systems must be addressed for the RMP to be cost-effective and responsive to customer needs. The decision was made April 1, 1997, to go beyond compliance reengineering and instead conduct in-depth reengineering of all RMP core business processes. This is the most comprehensive review of the RMP business processes and organization since its creation in 1982.

1.3 The Reengineering Approach

The first steps in the RMP-wide initiative involved establishing the project management structure and assembling and training a multi-disciplinary design team with representatives from all operational areas of RMP, MMS's Office of Policy and Management Improvement, and the State and Tribal Royalty Audit Committee. The work of the design team was guided by a charter which was developed by RMP senior managers. Business process reengineering (BPR) consulting services are being provided by Gene Rouleau and Associates, Inc. Additionally, Performance Engineering Corporation (PEC) is supporting the initiative in areas of information technology and BPR.

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1.4

For the development of the preliminary design concepts contained in this report, the design team was guided by design parameters and performance

Design Parameters and Stretch Goals

stretch goals defined by RMP senior managers. Specifically, the future systems and processes must be capable of:

- Supporting the collection of royalties both in-cash and in-kind.
- Supporting delegated activities related to royalty administration.
- Permitting the use of a variety of methodologies to value production.
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Performance stretch goals are an integral part of any BPR effort. The performance stretch goals defined by RMP management are:

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Stretch goals, by definition, cannot be achieved with existing processes. Management established these goals to challenge the design team in its exploration of new processes and ways of doing business that would be needed to accomplish the desired outcomes. Accomplishment, or significant progress toward achievement of the stretch goals, would mean dramatic change for RMP.

The design team was also guided by the following parameters in the development work:

- Current laws will continue to apply.
- RMP regulations can be changed.
- Reporting requirements should be simplified.
- New work processes should cost less than the current equivalent mission costs.

1.5 Administering Mineral Royalty Payments

The Federal Government is the largest mineral royalty owner in the United States. The business environment in which RMP administers royalty payments is similar in many respects to private land and State land minerals owners. However, in scale of activity, and variety and complexity of lease

terms, it is significantly different. Currently, RMP administers the rental, royalty, net profit share and other financial terms for about 26,000 producing mineral leases. This lease universe includes onshore Federal lands, Indian Tribal and allotted lands, and Outer Continental Shelf (OCS) lands. The RMP also administers approximately 46,000 non-producing mineral leases. The RMP has a broad customer and stakeholder base including interfaces with the Bureau of Land Management, Bureau of Indian Affairs, MMS Offshore Minerals Management, Department of the Treasury (Treasury), and others. Over 2,100 lessees report and pay royalties monthly and about 3,100 operators report production on a monthly basis.

Exhibits 1 and 2 depict some key statistics for RMP from FY 1996.

Revenue Collected From Mineral Leasing And Lease Administration	$4,620,000,000
Additional Revenue From Audit Program	$39,700,000
Additional Revenue From Underpayment Detection Programs	$33,200,000

Exhibit 1. Mineral Revenue and Compliance Collections (1996)

Producing Leases	26,000
Non-Producing Leases	46,000
Payors	2,100
Oil and Gas Royalty Report Lines Processed	3,371,000
Oil and Gas Operators	2,700
Production Report Lines Processed	4,500,000

Exhibit 2. Number of Leases, Payors, Operators, and Report Lines (1996)

1.5.1 Current Organization Structure

To accomplish its mission, RMP has a staff of over 600 employees and an annual budget of about $68 million. Led by the Associate Director for Royalty Management in Washington, D.C., RMP has 15 Divisions and/or offices as depicted in the organization chart at Exhibit 3.

The RMP operates a centralized accounting and collection center in Lakewood, Colorado. It has compliance audit offices in Houston and Dallas, Texas; in Oklahoma City and Tulsa, Oklahoma; and in Lakewood, Colorado. The RMP compliance audit effort is augmented by audit delegations and cooperative agreements with 10 States and 8 Tribes. Two contractor firms currently support RMP information systems and operations.

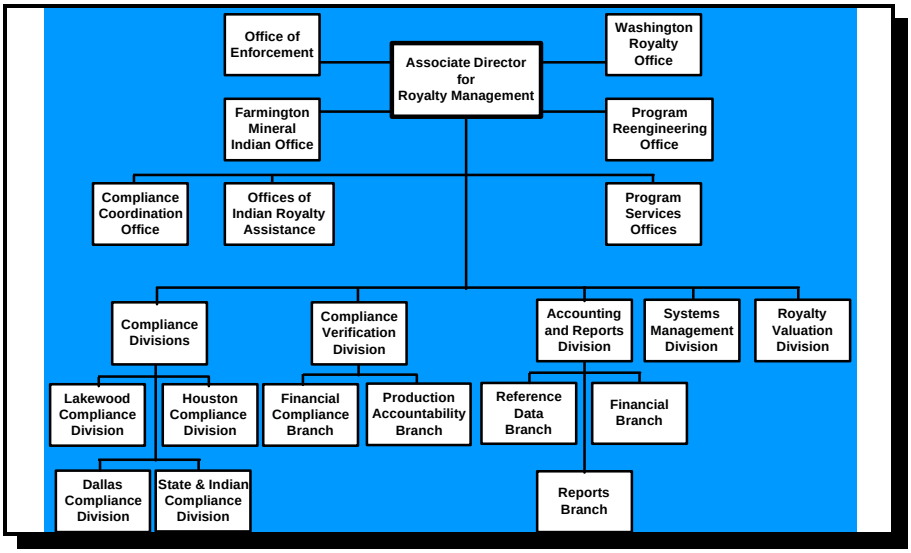

Exhibit 3. RMP's Hierarchical Organization Features Function-Oriented Divisions and Branches

The business processes which reflect RMP's current approach to its mission are concentrated in seven operating divisions. These divisions and their primary functions are:

Accounting and Reports Division

The Accounting and Reports Division (ARD) is responsible for establishing industry reporting and payment requirements, maintaining the Auditing and Financial System (AFS) and the Production Accounting and Auditing System (PAAS) to ensure accurate and timely reporting and payment of royalties, and maintaining the Common Reference Database to ensure complete and correct reporting. It also administers the current royalty-in-kind program, and distributes and disburses revenues to the States, Indian tribes, and other Federal agencies in accordance with applicable laws, regulations, and policies. This division is organized into three branches: the Reference Data Branch, the Financial Branch, and the Reports Branch.

Compliance Verification Division

The Compliance Verification Division (CVD) performs a variety of automated and manual verification activities to detect potential payor/reporter issues such as late payments, excessive allowances, royalty rate errors, improper recoupments and adjustments, and under-reporting of production and sales volumes. Two operating branches exist to carry out the responsibilities of the division: the Financial Compliance Branch and the Production Accountability Branch.

Royalty Valuation Division

The Royalty Valuation Division (RVD) establishes and maintains regulatory policy and procedural standards to provide a consistent basis for valuation determination. It also performs many of the operational and compliance functions for solid mineral commodities. Three branches exist within RVD: the Economic Valuation Branch, the Oil and Gas Valuation Branch, and the Solid Minerals Valuation and Reporting Branch.

Audit Divisions

The four Audit Divisions are responsible for planning and executing a comprehensive compliance audit program that addresses mineral revenues paid to the MMS.

1.5.2 Current Organization Features

The current organization chart reflects a hierarchical structure prevalent in most large organizations. Some organizational flattening and increases in supervisory staff ratios has occurred in recent years. However, RMP still retains the look and attributes of a multi-layered/chain-of-command organization. Decisions move vertically and are potentially subject to review at each level from section, to branch, to division, and above.

The other prominent feature of RMP's current organizational structure is its functional alignment. Rather than focusing on an entire process from beginning to end, each operational division conducts business independently within its respective realm. The four Audit Divisions, CVD, ARD and RVD generally concentrate on their own sets of issues, working on their own priorities and timetables, and developing pockets of knowledge which are not readily transferred to other organizational entities. Subsequent sections of this document will explore in more depth these and other organizational issues and reengineering-based alternatives.

1.6 Current Operations

The RMP has established a number of mission critical operations. These operations are:

- Revenue receipt and disbursement
- Billing and debt collections
- Data collection, storage and reporting
- Compliance operations
- Audit program

Although these operations appear similar in many respects to the organizations identified earlier, some of them do bridge organizational boundaries and warrant describing in their own right.

1.6.1 Revenue Receipt and Disbursement

Revenue receipt and disbursement activities are transaction-based functions oriented around receiving royalty payments, identifying the proper disbursing accounts, accounting for the funds and disbursing them in a timely fashion. The specific functions are:

Receiving Reports and Payments

The RMP staff receive payments and associated royalty reporting documents. Checks are tallied, examined for errors, entered into the system, and prepared for deposit with the Treasury. For electronic payments, only data is entered into the system, the payment has already been made to Treasury. Reporting documents are examined for errors, input into a database and matched up with the payments. If the data passes all system edits, the monies are available for disbursement.

Identifying Proper Disbursement Accounts

The RMP disburses funds to a number of recipients including Indian Tribes, States, other Government agencies and the Treasury. During this

cycle, the proper recipients are identified and the available monies are allocated to them.

Accounting for the Funds

The RMP maintains accounts receivable, accounts payable and general ledger information for all monies processed. These fund accounts are maintained, accounted for and reported in accordance with Treasury rules and regulations, the Code of Federal Regulations, applicable Federal laws and accepted budget and accounting procedures.

Disbursement

Revenues are deposited with the Treasury, usually within 24 hours of receipt. Royalty reporting documents are entered into the database and compared to the royalty payments to ensure accuracy. Once reconciliation has occurred, accounts receivable and accounts payable are liquidated and the general ledger is updated, completing the distribution process.

1.6.2 Billing and Debt Collection

The RMP does not generally bill for royalties or rents. It is the payors' obligation to make their payments on a timely basis. However, several events can cause a payor to be billed:

- Late or insufficient payments
- Other automated exception processing routines
- Audits and other compliance activities

If royalty payments are received late, and interest is due, AFS automatically generates bills. Several of the automated exception processing routines will also generate a bill. Finally, RMP auditors can request that a bill be generated to initiate collection on audit results.

When a payor falls behind in paying, RMP begins a debt collection process defined by the Debt Collection Act. Between 80 and 90 percent of delinquencies are paid after the first follow-up letter or phone call. Collection of remaining bills may involve litigation and other resolution approaches.

1.6.3 Data Collection, Storage and Reporting

A payor enters RMP systems by submitting a Payor Information Form (MMS-4025). This form provides payor/lease and royalty information that is entered into the Common Reference Database (CRD) which provides the basis for all lease processing by RMP.

Oil and Gas

The RMP collects two primary reports on every operating Federal and Indian oil and gas lease; the Report of Sales and Royalty Remittance (MMS–2014) and a Monthly Report of Operations (MMS–3160 for most onshore lands and the MMS–4054 for OCS lands and some onshore lands).

Information from the MMS–2014 is entered into AFS, either electronically or keyed by contractor staff. Before the data is permanently accepted by AFS it is run against a series of program edits which are designed to catch errors in the information provided on the document. These errors, usually in the accounting, product or sales codes, are deviations from the information provided by the MMS–4025. When AFS detects an error it flags the line and does not process the data. The RMP employees access flagged lines on a daily basis and attempt to resolve them, either internally or through contacting the payor.

Information from the MMS-3160 or MMS-4054 operations reports is entered into the PAAS. The PAAS also subjects reported data to a series of edits. Employees compare PAAS source data with external information, primarily provided by the Bureau of Land Management or Offshore Minerals Management, and use this information for detailed technical analysis of the information and any errors identified by system edits. When errors are identified they are corrected internally or the operator or source of conflicting data is contacted to assist in error correction.

Solid Minerals

Payors complete Solid Minerals Payor Information Form (MMS-4030) to establish payor/lease references. The MMS–2014 is also used for solid minerals royalty reporting, however, a series of reports unique to solid minerals is used to report operations. These reports include:

- Mine Information Form (MMS-4050) to establish the lease/mine relationship.
- Facility Measurement Information Form (MMS-4051) to establish the sales/transfer measurement point(s) at the mine or facility.
- Solid Minerals Operations Report (MMS-4059) to track production and disposition of raw materials.
- Solid Minerals Facility Report (MMS-4060) to identify the quantity of raw materials processed and disposed.

These reports contain payment information from payors and production information from operators and, collectively, provide comprehensive information about mineral operations for all of the solid mineral leases administered by MMS.

1.6.4 Compliance Operations

Once PAAS data and AFS data are in the systems and have passed initial edits, they are compared to each other using predefined royalty to production formulae to identify discrepancies. This AFS/PAAS comparison is performed six months after the month of production. Once the six months has expired, the comparisons are made on a nightly basis for all new or adjusted report lines. These errors, if they exceed a preset tolerance, generate a discrepancy report which is forwarded to a compliance analyst for resolution. Approximately 1,500 discrepancies a month require compliance action.

Compliance Verification Division staff investigate each of the potential discrepancies to see if they represent an incident of non-compliance or whether it is a spurious or reporting error. If the error is spurious, the analyst updates the tracking system and closes the case. If the error is a reporting error, a compliance analyst notifies both the payor and operator to resolve the issue. Most issues are resolved and additional royalties due are collected through amended reporting. Approximately 800 errors a month result in additional royalties collected.

In addition to the AFS/PAAS volumetric comparison, further extensive exception processing is performed to address the validity of other aspects of the royalty report. Known as financial exception processing, this activity

occurs generally within the first six months after the royalty payment date and covers the timeliness and accuracy of royalty payments. The financial exception processing modules have been developed over the years and each selectively addresses some aspect of the royalty paymentlines. The only significant area of the royalty calculation not addressed in some fashion is the valuation component. The financial processing routines are not integrated in terms of being able to evaluate the royalty payment at the lease or agreement level, and there is no data or analytical relationship established between them and the AFS/PAAS comparison. Consequently, payors are oftentimes contacted on different issues at different times on the same reported royalty line.

1.6.5 Audit Program

One of the major activities conducted by RMP is the regular and periodic audit of payors. Ten of the largest payors have an on-site residency audit presence. Other selected payors are periodically audited by other RMP, State oand Indian auditors.

The Audit Program encompasses three major processes:

- Audit planning
- Field work
- Case resolution

The audit strategy provides for payors with resident audit teams to be audited on a three-year cycle and other selected payors on a five-year cycle. Field work involves visits to companies to develop information which can be used to ensure compliance with lease requirements. Case resolution involves enforcement activities, including litigation and other resolution approaches, to collect royalties and interest.

1.7 Timeliness of Current Operations

The RMP currently takes 6 or more years to complete its business cycle on a royalty payment. Exhibit 4 shows some of the key events in that timeline. The timeline can be broadly broken down into three phases: (1) royalty processing and error correction, (2) compliance verification, and (3) audit. During each of these phases, RMP has a different focus.

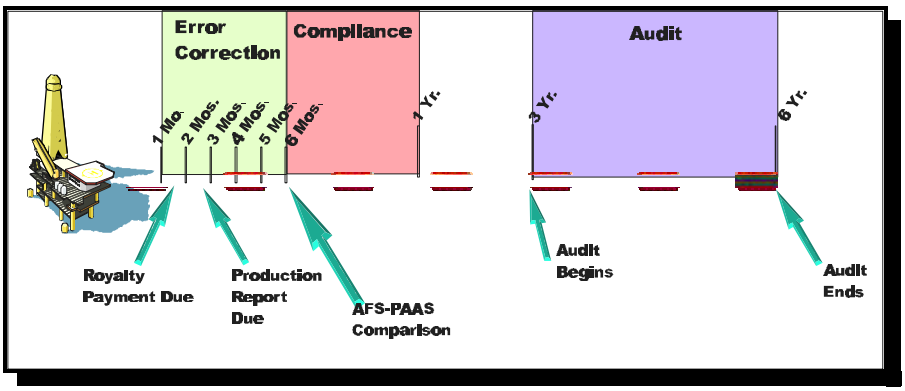

Exhibit 4. Royalty Processing, Compliance and Audit Can Take Six Years or More.

During the report and payment receipt, royalty processing and error correction phase, oil and gas specialists within the ARD are processing reports and payments, including correcting erroneous entries into AFS, PAAS, or CRD. The RVD employees correct erroneous solid mineral entries. In addition to filing original reports and payments related to current production, payors and operators are amending their past reports and payments to fix incorrect reporting and update existing information to reflect changes in production or royalties owed. During the compliance verification phase, CVD employees attempt to resolve exceptions generated by the computer. Little comprehensive analytical work is done beyond that necessary to resolve the discrepancies identified by the computer.

During the audit phase the various audit divisions focus on evaluating, through the examination of "source documents," whether royalties were correctly paid on selected leases.

The following list elaborates on some of the events in Exhibit 4 and who performs them:

- A royalty payment is initially due by the end of the month following the month in which production was sold. The royalty payment and accompanying report (MMS–2014) are sent in by the payor.

- The ARD enters payment data into AFS and deposits the royalty check. The payment is applied, and the money is disbursed to the designated recipients.

- Production reports are generally due on the fifteenth of the second month following production. Operators prepare and submit a variety of operations reports.

- Exception processing routines run at varying times after initial receipt and run again any time new or adjusted lines are submitted. During the time from initial receipt of royalty information and payment until months later, efforts are largely focused on error correction and selected automated exception processing activities. The ARD, CVD, payors and operators all play a role in these processes.

- Six months after production, the AFS/PAAS comparison is run for the first time. This inevitably generates numerous exceptions. The CVD, payors and operators spend the next 6–12 months resolving these exceptions.

- After the first 12 -18 months, activity subsides until payors and leases are selected for audit.

- Two to five years after compliance verification activities diminish, the audit cycle starts. Payors are selected for audit, a request for audit information is sent out, payors and operators search for the

warehoused information, and the auditors begin recreating the financial and production transactions. Audit plans do not incorporate results of CVD automated exception processing routines and analysis. Thus, much of the verification work done by CVD is also done by auditors including royalty rate and production verification, rent and minimum royalty compliance, Section 10 recoupments, and others. With the long interval since payment, many companies subject to audit have had changes in personnel and accounting systems and long ago stored records in warehouses. These factors, as well as others, make the audit process slow, cumbersome, and costly for both the MMS and the audit client. The majority of additional audit collections relate to valuation issues. Audit collections related to issues analyzed by CVD have declined dramatically over the last 6 years with collections oftentimes occurring on "below threshold" exceptions not worked by CVD due to resource constraints.

Current operations are time-consuming, frequently repetitive, somewhat arbitrary and take entirely too long. This 6-year life cycle is the primary force behind establishing the 3-year stretch goal. To achieve this goal will require a much more aggressive approach to revenue management and compliance verification than what is reflected in the present 6-year cycle.

1.8 Lease Accountability

The RMP's current function-based organization and business processes do not establish accountability for assuring that royalties are timely and correctly paid at the lease level. The condition exists in part because of the functional focus of the organization and also because of the basic strategies employed to seek compliance. As previously described, RMP's automated exception processing verification function performs a variety of computer-based analyses to look for anomalies between expected and actual results. The analysis occurs, in most cases, at the payor reported line level, and in some cases at the lease and agreement level. No one considers the overall result of the exception processing work at the lease or property level. Property level analysis is an important aspect of ascertaining the effectiveness of compliance processes and of better understanding and evaluating similarly situated leases in the same producing field or area.

The audit function performs its work 2–5 years after the automated compliance verification function. The audit function plans and executes its work primarily on the basis of payors and the amount of royalty revenue paid. Further, work is divided between three geographically dispersed audit offices based on the geographic location of the payors' accounting offices. Work performed by MMS auditors is supplemented by State and Tribal auditors working under delegated and cooperative audit agreements. The "payor-approach" is intended to maximize the "audit-coverage" of royalty dollars paid. However, the strategy also results in: audit resources being directed at many of the same payors and the same leases for each audit cycle; audits addressing just parts of producing leases and agreements; and

multiple offices auditing the same lease. Again, the overall result of the compliance audit work is often not considered at the lease level.

The design team believes that, to achieve the 3 year stretch goal, it is important that future RMP business processes be refocused at the lease or property level within producing areas. The lease is the instrument that gives rise to the royalty obligation. It is the production from the leased property that yields the royalty payment whether made in-kind or in-value.

1.9 Current Challenges

The design team identified key issues in three areas of RMP's current operations that must be addressed to achieve theperformance stretch goals and parameters of the envisioned future RMP. These areas are: organization and business processes; automation infrastructure; and information requirements.

1.9.1 Organization and Business Processes

- The RMP's organization and business processes are focused on functions, not end-to-end processes. Work is organized and done incrementally in each functional area. Each organizational unit typically operates with relative independence, on their own schedules and priorities, developing their own information structures and accountable only for their respective functional area. Accomplishments are measured in terms of outputs not outcomes. Numerous cases exist of overlaps in work, redundantly performed work, or work being redone largely because of the functional organization and the lack of consistent focus on outcomes.

- The RMP does not always have a consistent focus or continuous sense of program-wide priorities. Knowledge is managed in a way that can make timely and informed business decisions difficult.

- Interpretation of issues with industry sometimes varies due in part to the functional organization and the long periods of time that elapse between the making of a payment and the conduct of an audit.

- The RMP's planned business cycle lasts for 6 or more years—much greater than timeframes practiced in industry and by comparable organizations.

- Much of the day-to-day work at RMP is transaction-oriented. Rarely is in-depth analysis of the property as a whole conducted. Employees are expected to respond to computer-identified exceptions which lack context relative to the lease and its compliance status.

- The RMP employees understand their functional area, but are not in a position to assess the impact of their work on other organizational units. Knowledge acquisition, management and transfer is extremely difficult in such circumstances.

- The payor based focus of audit activities makes it difficult to validate the status of a lease or unit, understand unique market conditions, and transfer knowledge about a specific property.

1.9.2 Automation Infrastructure

- Existing automated systems in RMP have been frequently modified, contain complex and aging application software, and are increasingly difficult to maintain.
- Existing systems are not flexible or portable and will not support RSFA-based delegations or new reengineering design concepts.
- Changes in laws, regulations, policies and procedures require automation changes which take too much time and resources to implement.
- Lack of continuity in applications from the beginning to the end of a process and lack of access to mainframe data has led to duplicated systems and recreation of data in stand-alone personal computer applications. Proliferation of these applications for mission-critical financial processes can weaken system integrity.
- Lack of easy access to mainframe data (and limited ability to manipulate it) hampers analytical activities. Furthermore, presentation of these data in current systems does not facilitate in-depth analysis of lease activity or determination of lease status.
- Data entry consumes excessive resources.
- The Inspector General and other reviewers recommend systems modernization.

1.9.3 Information Needs

- The RMP's information reporting requirements are, in numerous respects, inefficient. Forms created in the 1980's have changed little. Some required data elements are no longer needed as processes have evolved.
- Data received from other agencies is frequently slow in arriving. This actually causes some of the problems in error correction. Continued improvements in electronic interfaces with other agencies will improve the timeliness and quality of data received.
- Little in the way of current industry market or third-party data is timely available to supplement and validate reported data. Such data could help detect and resolve many compliance related issues.
- The single line month to month approach to receiving and analyzing data causes many problems in error correction and compliance verification. Frequently, subsequent reporting by payors or operators has the net effect of canceling out earlier errors.
- It is difficult and time consuming to manuallykey and rekey data that is not received electronically.
- Information is not easily accessed or shared.

1.10 The Answer: Reengineering Operations

The RMP has a long history of successfully responding to change and aggressively seeking opportunities to improve. Reengineering is our response to external events that dictate change and an internal desire to continuously improve. Despite the challenges outlined above, RMP continues to accurately and timely disburse revenues to the proper recipients and generate additional millions of dollars through its compliance programs.

The design team has specifically addressed these challenges by making a series of recommendations. The recommendations are necessarily a combination of management, information and technology changes. All three are fundamental to any organization and should be uniformly adjusted or modified. The remaining sections of this document identify those recommendations in the context of a new environment and new business processes at RMP.

2 Organize Around Core Business Processes

The design team has identified numerous issues that must be addressed to achieve the envisioned performance stretch goals. One of the more difficult challenges confronting the team was to find solutions that would transform the Royalty Management Program (RMP) into an organization focused on outcomes rather than outputs. The design team has answered this challenge and is proposing dramatic changes to RMP's current functional activities along with a new organizational alignment to support redesigned core business processes. The team views RMP as having two core business processes that are vital to the organization's success and survival: the financial management process and the compliance and asset management process.

In the most simple terms, RMP can be described as having two fundamental processes which differ in their basic nature; royalty payments, and production and value information. A royalty payment is money with accompanying reports that is sent through RMP as a clearinghouse on its way to its ultimate destination of the Department of the Treasury (Treasury), States, Tribes or Indian Allottees. The RMP's responsibilities are simple even if the process is not; receive the money, account for it, make sure it gets to its intended recipient. The performance stretch goal for the future is to do this within 24 hours. Because royalty payments lend themselves ideally to centralized operations, proposed changes to RMP operations envision continued centralization of the financial management process.

Mineral production and value information is quite a different process. Significant variability exists depending on the commodity, its geographic production location, the way it is transported and processed, the markets that are served, etc. Addressing production and value is an analytical exercise. The RMP employees of the future, with expert knowledge of the variables impacting production and values, will need to make informed decisions about the reported production and value information. They will need to determine whether selling prices, transportation and processing allowances and many other factors are reasonable, and they will need to be able to identify an underpayment, pursue the underpayment, and assure that the underpayment condition remains in compliance. The performance stretch goal for the future is to make these determinations timely and act on them within 3 years from when the payment was due. Furthermore, RMP employees will need to make timely and informed asset management

decisions on whether royalty should be taken in-kind or in-value. The design team proposes decentralizing the compliance and asset management process and focusing the process at the lease/producing area level.

The design team has developed a future concept of operations that recognizes the characteristics of the two processes and capitalizes on the best features of centralization and decentralization to meet these challenges. In short, centralized financial management operations focused on the payor and revenue recipient, and compliance and asset management operations focused at the property and producing area level.

2.1 Centralized Financial Management Process

The financial management process lends itself to centralized management focusing on payors and revenue recipients. Organizationally, RMP's Accounting and Reports Division will not differ appreciably in the future. Since royalty payment processing represents a key mission requirement for RMP, it must remain a viable process during other reengineering activities. It will still receive and process high volumes of financial transactions, post debits and credits, apply payments, and continue to produce the myriad financial reports required of them by law, regulation, policy and procedure. The Accounting and Reports Division's focus will be on maintaining continuity in financial transactions while modernizing supporting technology.

A number of recommendations arose from the analysis of financial processing and reporting areas. An integrated accounting system that eliminates stand-alone applications, simplified reporting, and streamlined payment and cash application processing will enable RMP to move money faster. No single recommendation in and of itself will achieve the stretch goal of availability of funds within 24 hours. Collectively, they will move RMP closer to the objective and address many of the weaknesses in existing financial processes. However, the design team will continue to explore "best practices" and other possible ways to achieve the stretch goal. Outlined below is a discussion of the design team's preliminary financial processing concepts.

2.1.1 Financial Accounting

The Auditing and Financial System was designed to provide information about royalties paid and to whom that payment should be sent. It was never designed to be a comprehensive accounting system. Stand-alone personal computer applications and manual processes complete basic accounting functions. Consequently, a major endeavor will be to implement a true accounting system which features double entry accounting, end-to-end accountability for funds, integrated reporting, system generated financial statements, and more rapid and user friendly access to financial data. A commercial off-the-shelf accounting package will be explored as a means to these ends. To the degree RMP succeeds, it will strengthen internal controls and assure compliance with Treasury standards. Furthermore, it will enable RMP to position itself to provide related financial services for other customers through franchising agreements.

2.1.2 Reporting and Error Correction

The ability to receive and process documents using internet capabilities, electronic commerce, and imaging can significantly reduce paper handling. Other potential improvements to reporting and error correction are:

- Simplify reporting requirements.

- Eliminate or significantly reduce paper reporting.
- Limit initial royalty edits to only those needed to disburse a line and fulfill explanation of payment requirements. Indian leases will require more stringent edits.

2.1.3 Payments and Payment Application

New payment regulations require all payments, with few exceptions, to be made electronically. By fully automating all aspects of payment processing, significant improvements in overall efficiency can be achieved. Key components include:

- Greater use of automatic clearing house debit processing.
- Workflow systems for cash application actions, automated change tracking, and transaction history viewing.
- Database changes that will allow association of payment and royalty documents and permit reconciliation with less manual effort.
- A "click and drag" or "cut and paste" method to move and apply payments.
- Payor access to their account information.
- Automated audit trails to replace manual tracking procedures.

2.1.4 Distribution, Disbursement and Explanation of Payments

Changes that will expedite disbursements include:

- Access to a system that will process data faster than current processes, i.e., a system that can disburse and distribute lines and data quickly.
- Replacement of manual off-line personal computer applications with on-line applications that expedite efficient management and timing of disbursements.
- Simplification of reporting requirements discussed in Section 4 (net adjustments, single line reporting, etc.).
- Improved systems communications with the Department's Office of Trust Fund Management and Bureau of Indian Affairs.

2.1.5 Billing and Debt Collection

Key changes that will improve billing and debt collection include:

- Use workflow processing and case management systems to allow all bills and related documents, synopsis of decisions or conversations and other actions to be tracked from beginning to end.

- Issue bills for specific verifiable items as required by the Federal Oil and Gas Royalty Simplification and Fairness Act.

- Eliminate keying and rekeying of bill data. An automated system to move and validate bill data will greatly simplify control procedures and reduce handoffs.

- Automate all paper bill files and only review and validate manually entered bills.

- Decentralize bill write-off authority.

- Evaluate the cost of collection versus the amount collected in making write-off decisions.

2.2 Compliance and Asset Management Process

The compliance and asset management process lends itself to decentralized management focusing on leases and producing areas. As opposed to the current configuration of compliance functions performed by the Audit Divisions, the Compliance Verification Division and the Royalty Valuation Division, the future concept of operations envisions an end-to-end compliance and asset management process performed by geographic basin teams that will focus on leases and producing areas. The process will combine knowledgeable and accountable analysts with information and automated tools to address the full range of compliance issues within the 3 year stretch goal. Furthermore, the process will include the assigned responsibility for identifying and acting upon opportunities for taking royalty in-kind that serve the business goals of RMP.

The RMP is tasked with managing the mineral revenue aspects of some 26,000 producing leases and 46,000 non-producing leases. From the asset management standpoint, it is important to focus on and understand the asset to be able to effectively manage it. In its most basic form, the asset RMP manages is the revenue stream emanating from mineral leases. All factors influencing mineral revenues need to be understood in order to fully meet RMP's stewardship responsibilities. In working with representatives of the minerals industry, design team members found that many companies have moved to asset management strategies that focus on producing properties. Business units are established and responsibility for the success of the properties and the business unit are assigned. From a royalty owner perspective, there are many parallels. In its benchmark surveys, the design team found that organizations, both public and private, that collected mineral royalty revenues organized and focused their resources at the producing property level. They consistently held that to timely and effectively manage their assets, the revenue stream, they had to focus their attention at the property level. The design team is convinced that RMP needs to focus its overall business strategies and especially its compliance and asset management strategies at the property level within producing areas.

The basic nature of the minerals industry, the producing environment and infrastructure, lease terms, markets served and a variety of other factors

argue for focusing the compliance and asset management process on leases and producing areas. This applies for both the oil and gas and solid minerals industry. A brief discussion of some of these relevant factors as they apply to oil and gas and solid minerals production follows.

2.2.1 The Importance of Focusing on Leases and Producing Areas

The vast majority of oil and gas for which the RMP collects production royalty payments and other revenues occurs on leased Federal and Indian lands located in producing areas west of the Mississippi River, on the Outer Continental Shelf in the Gulf of Mexico, and off the coast of California (see Exhibit 5). These producing areas are typically defined through intense exploration and development activity and are bounded by the limits of ancient sedimentary basins. In many cases, the Federal Government is the dominant royalty interest owner in the producing area. On the Outer Continental Shelf, seaward of State boundaries, the Federal Government is the largest royalty interest owner. For Indian oil and gas leases, particularly those related to lands within established reservations, a similar dominance of royalty interest is generally found.

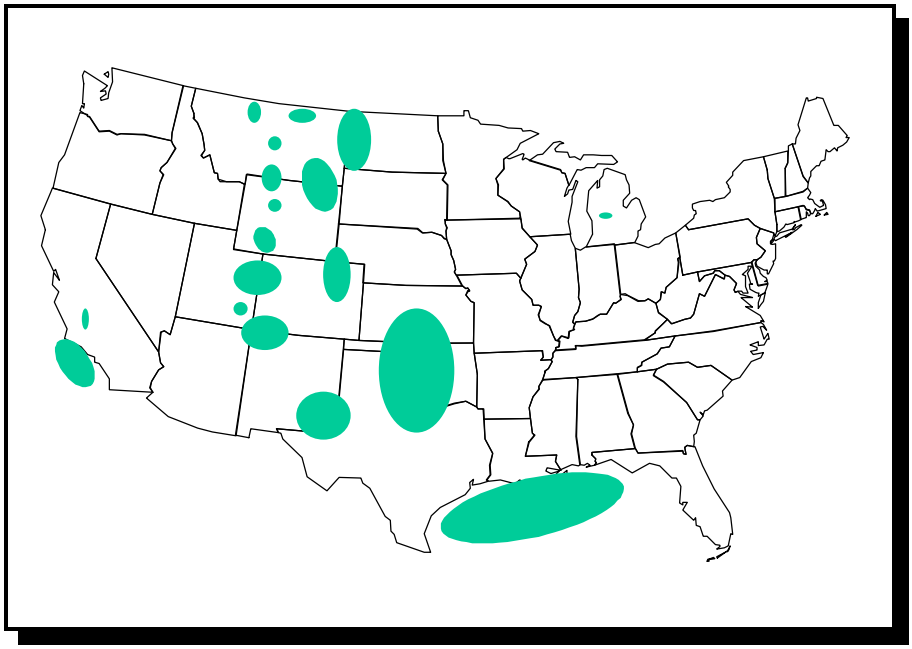

Exhibit 5. Federal and Indian Oil and Gas Leases are Found in Producing Basins in the Western United States and the Gulf of Mexico

The significant advantage that this dominant position gives MMS is that it can effectively and knowledgeably evaluate royalty payments both at the lease level and at the producing area level. Significant advantages are gained through the combination of a detailed lease-level analysis with the holistic producing area level comparative analysis. Through such analysis, the markets and prices being realized for commodities and their impact on royalties are better understood in the producing areas; the producing

processing and transportation infrastructure are better understood in a variety of respects that affect royalties; and the impacts of specific lease terms and pooling agreements become clear. The advantages gained from understanding properties and producing areas applies equally well to managing royalties whether taken in-value or in-kind. The approach can clearly leverage knowledge of the producing areas in identifying those circumstances where an in-kind strategy will better serve the business goals of RMP.

Characteristics that argue for focusing the compliance and asset management process on the producing area and lease-level include, among others:

- The nature of production
- The nature of transportation
- The nature of gas processing
- The nature of mineral leases
- The nature of unit and communitization agreements
- The nature of solid minerals

2.2.2 The Nature of Production

Oil

Oil production from Federal and Indian lands varies considerably among producing areas, and in some cases, within a producing area. Typically the quality of oil production, potential refinery yields, and the oil's proximity to potential consumers (refiners) are factors that bear on its value. These factors will have a somewhat consistent impact across all similar quality oils in the producing area and consequently will similarly impact royalty values within and across numerous leases. In cases where oil must be gathered and transported to central accumulation points for sale, typically parts of the same physical infrastructure will be used by many producers in an area. Impacts on royalty payments within and across numerous leases again will have some consistency. Even if oil is disposed of through exchanges, the volume and value of the trade oil bears directly on the value to be used for royalty purposes. Gaining, maintaining and managing knowledge of these factors and their impacts on royalty calculations provides valuable leverage in being able to efficiently and effectively manage production royalties whether received in-value or in-kind.

Casinghead Gas

Casinghead gas is natural gas that is recovered during oil production. Typically, casinghead gas is produced at low pressure and is processed and/or sold through casinghead gas contracts with a local gas plant. The processing and sale arrangements with the local plant have some consistency from one arm's-length contributing producer to the next which will be reflected in royalty calculations within and across leases. Less than arm's-length arrangements between a producer and the processing plant will create processing and sale arrangements that may impact royalty calculations in different ways, however, the impacts will generally be consistent across similarly situated leases.

Natural Gas

Natural gas and associated liquids production also reflect considerable variability between and even within producing areas. As an example, San Juan Basin natural gas is produced from both traditional sedimentary rock and coal beds. The field handling and treatment varies considerably between the two gas sources. This variation is reflected in royalty calculations. Realized prices also vary between producing areas. Competing fuels, lease distance from market, available

pipeline capacity and other factors impact value. Natural gas from the Gulf of Mexico is served by a significant pipeline infrastructure and enjoys ready access to large markets. In contrast, natural gas production in the Overthrust Belt of western Wyoming is far from consuming markets, until recent years had limited pipeline access to those markets, and competes directly with alternative gas sources in oversupply markets. Consequently, prices realized across leases in the Overthrust Belt are significantly lower than those in the Gulf of Mexico.

By gaining, maintaining and managing knowledge of the aforementioned factors related to natural gas and casinghead gas and their impacts on royalty calculations at the lease and producing area level, the RMP will be able to more efficiently and effectively manage production and royalties whether taken in-kind or in-value.

2.2.3 The Nature of Transportation

In many circumstances, oil and gas production must be transported away from the lease for sale. As a consequence, the lessee is generally entitled to a transportation allowance equal to its reasonable, actual costs of moving the production to a sales point off the lease. Many leases in a producing area are usually served by the same transportation systems. By gaining an understanding of the transportation costs associated with these systems, RMP is in a better position to determine if the reported transportation allowances are valid. In addition, economies can be achieved by comparing and trending all the leases going through the same transportation system as opposed to looking at each lease and each payor, one at a time.

2.2.4 The Nature of Gas Processing

Natural gas production can be sold unprocessed or processed. If gas is processed prior to sale, the lessee is entitled to a processing allowance equal to its reasonable, actual costs for processing the gas. As in transportation, many leases in a producing area are served by the same gas plants. By gaining an understanding of the processing costs associated with these plants, RMP is in a better position to determine if the reported processing costs are valid. In addition, economies can be achieved by comparing and trending all the leases going through the same plant as opposed to looking at each lease and each payor, one at a time.

2.2.5 The Nature of Mineral Leases

Not all leases are created equal. Lease terms do vary depending on a variety of factors including, among others, the mineral under lease, the vintage of the lease, the land category under lease (military/public/acquired), the location of the lease (onshore/offshore), and the owner of the leased land (Federal/Indian). Understanding the lease requirements and how those requirements "fit" into the larger picture of the producing area is important. For example, in the Gulf of Mexico, MMS administers producing Net Profit Share Leases that are fundamentally different than fixed/variable decimal royalty rate leases. Not only must the royalty administrator understand the unique calculation requirements of the Net Profit Share Leases, but also how those calculations are impacted by adjacent fixed decimal leases.

Most Indian leases require the calculation of a "majority price" for determination of royalty value. The majority price calculation is based on sales of oil and gas production in a field or area. Ideally, all sales within the field or area are needed for the calculation. By gaining and maintaining an understanding of producing areas, RMP will be better positioned to fulfill the majority price calculation requirements of Indian oil and gas leases.

2.2.6 The Nature of Agreements

Unitization and communitization agreements join tracts of land or leases to permit the drilling of a well (communitization) or the efficient development of a reservoir (unitization). The MMS currently collects royalty payments on oil and gas production from approximately 12,700 agreements. From the royalty perspective, such agreements create relatively complex royalty calculation problems. These problems are exacerbated when there are multiple parties paying royalties on the leases encompassed by the agreement. The most efficient and effective approach to address agreement production is to address, at one time, all royalty payments made by all payors for such production.

2.2.7 The Nature of Solid Minerals

Like the nature of oil and gas lease production, solid mineral production has many of the same production and economic attributes. Production methods, the quality of the product, its processing yields, and its proximity to customers all vary and are all factors that impact its value. Lessees are also entitled to a transportation allowance equal to reasonable, actual costs of moving the commodity to a sales point. Solid mineral production includes more than 40 different commodities, with coal the highest revenue generating product on solid mineral leases. The largest revenue generating commodities are described below.

Coal

Over two-thirds of Federal and Indian coal is produced in Wyoming. Most of the coal mined in Wyoming comes from the southern Powder River basin. Twelve of the largest mining companies operate in the southern Powder River basin. There are four grades of coal, based on quality and Btu content, produced in the U.S. including anthracite, bituminous, sub-bituminous, and lignite. Each grade of coal has a different value. Sub-bituminous production dominates the market in this country. Sub-bituminous coal can be used to fire electrical generation power plants and various industrial plants, or to heat homes. Coal is produced using surface or underground mining methods with the prevailing geologic and economic market conditions of the particular basin dictating the mining method to be employed. Surface mining is the predominant form of production. Underground coal mining includes two predominant mining methods: longwall and conventional room and pillar mining, both of which have different production capacities and economics.

Sodium and Potassium

Sodium, potassium, and potash products are produced by mining and processing high grade ores containing significant quantities of sodium carbonate (soda ash) or potassium oxides (potash). These high grade ores are always central to a large sedimentary geologic structure and are mined by a small number of large mining companies. The ores are processed into a variety of "primary" products which are either sold or further processed to make "secondary" products. The value of these "primary" products is based on market conditions in both U.S. and international markets. The value of "secondary" products is derived from the amount of "primary" products used or consumed to produce those "secondary" products.

Lead/Zinc/Copper

Lead, zinc and copper minerals are produced from both high and low-grade ore deposits that also occur in various geologic formations. A variety of underground and surface mining methods and complex mineral processing facilities (mills and smelters) are used to concentrate these minerals into pure lead, zinc, and copper. Each mineral deposit's characteristics determine the mining and mineral processing techniques used by the mining companies. Mills produce a high-grade "concentrate" that is sent to a smelter for further processing. The value of these concentrates is based on posted prices and agreements established between each mill and smelter.

2.3 Dynamic Data Verification Process

To achieve the stretch goal of assuring compliance within 3 years, RMP's compliance management process must begin as quickly as possible after the payment of royalty and proceed in an efficient and focused manner. By focusing on dynamic data, such as volume, value, etc., and its relationship to fixed data that impact the royalty calculation, a dynamic data verification process will support effective compliance and asset management. Simply stated, the dynamic data verification process will combine knowledgeable analysts with information, automated analytical tools and procedures in an end-to-end process focused on properties and producing areas to accomplish RMP's business goals. The concept design will be flexible to accommodate both in-value and in-kind reporting. It will maximize the use of the following information data sets to define and pursue compliance and asset management issues.

- Operators and Payors: production and royalty data reported monthly to RMP, sales contracts, settlement statements, etc, reported on an "as needed" basis.
- Bureau of Land Management, Bureau of Indian Affairs and Offshore Minerals Management: basic lease and agreement reference data, liquids verification system analyses, gas verification system analyses, and production verification results.
- Industry market and third-party data: petroleum information, electronic sales bulletins, Petroleum Information Grid, geographic information sources, etc.
- Results of lease, field, and area trend analyses.
- Various source data analyzed by the producing area teams: pipeline or commingling schematics, facility measurement point schematics, gas plant service areas, site security plans, etc.

The end-to-end process will analyze all data elements that enter into royalty calculations and assess compliance status at the property level. Furthermore, the process will support asset management decisions related to whether royalties should be taken in-kind or in-value.

2.3.1 Establishing Compliance

The dynamic data verification process is designed to determine the reasonableness of royalty payments at a property level (lease/agreement). The *reasonableness* test is performed by comparing what is reported to what RMP expects. Properties outside a predetermined range will be determined to be out of compliance. Properties determined to be "in compliance" will normally receive no further review unless future reporting results in an "out of compliance" condition. Once the "out of compliance" properties have been analyzed and valid discrepancies are determined to exist, RMP will pursue resolution through bills for collection. The goal is to resolve all issues at one time on a given property. The data the analysts acquire during the process will also be captured and used to continually update the reasonableness of "expected" values. The concept design will be flexible enough to accommodate both in-value and in-kind reporting.

The teams will use input tables to control the verification thresholds and to provide a means of storing knowledge obtained about a particular property. This is in contrast to today's environment where information obtained by individual employees is used once and stored either in hard copy files or on personal computers that are inaccessible by other RMP personnel. A system that accesses tables, instead of being hardcoded, lends itself to adapting to changing legislative requirements as well as adapting to unique mineral lease terms.

The total dollar amount of a potential under/over payment will be generated on a property basis. The net difference of each royalty element will be shown separately so the analyst can identify the likely source of the problem. The analyst will also have the capability to view the exception in greater detail. For example, the property data will be available by payor to identify how each payor compares to other payors.

Analysts will be members of a geographic team and become experienced and knowledgeable about the basin, its agreements, markets and transportation and processing facilities. This understanding and background will enable the analyst to more quickly identify and resolve targeted discrepancies.

The validity of the targeting formula will be monitored so that the dynamic data verification process can be changed when industry practices or reporting changes, or to make analysts more effective and efficient at performing the process.

Expected Royalty Value

The RMP will establish the "expected" values for each element of the royalty payment—volume, quality, unit price, royalty rate and allowances. The "expected" values are based on reported data and information gathered specific to the producing area. The teams will establish and maintain input tables which include expected unit price data, arm's-length and non-arm's-length contract indicators, transportation and processing allowance data, etc., for the system to use when calculating the "expected" value. It will be the team's responsibility to control the tables. Information obtained by the teams to establish the "expected" value will vary by producing area depending upon the characteristics of that area.

As the teams increase their expertise, RMP can tighten the ranges on the expected value. For example, as electronic industry sales bulletins or sales contracts are obtained, the information will become part of the database used to establish "expected" values. Results of major portion and dual accounting subroutines, etc., may be maintained in the input tables for access by the "expected value" calculation.

The following paragraphs discuss approaches to establishing "expected values" for each royalty element. All of these elements will be verified simultaneously, including assuring that adjustments don't reduce lease balances below zero, as part of the overall dynamic data verification process.

Volume: Sales volumes reported on the operator's production statement will be used to populate the expected sales volume. To verify the payor's reported volumes, analysts will compare the operator's statement to the royalty documents in more detail than is currently performed by the Auditing and Financial System/Production Accounting and Auditing System comparison.

Expected Quality: Expected quality will be established from the operator reported quality on the production statement or the payor reported quality on the royalty document or other sources. The teams will determine which quality to use.

Expected Unit Price: The teams will establish and maintain price tables. The system will use the price tables to populate the expected price. For start-up, a default price will be used for each property. As the team's knowledge of a market area increases, they will determine the best price to use.

Expected price options include, but are not limited to:

- average price for agreement, field, or area as reported by other payors
- index and/or area postings (+/- %)
- major portion analysis for the field or area
- contract prices
- weighted average contract price

The teams will update expected prices continuously.

Expected Royalty Rate & Lease Allocation Factor: Populate the expected royalty rate and allocation factor (if applicable) from the RMP database.

Transportation & Processing Allowances: There are two factors to consider when verifying transportation and processing allowances— exceeding the regulatory limit and validity. The allowance limit check will be performed automatically as a subroutine within the module. Exceptions resulting will be noted by the system. Checking the validity of an allowance for targeting purposes will be accomplished in two ways. First, the process will access the team's input tables for the latest information known about a contract, allowance factor, etc., to use when calculating the "expected" value. Second, trending

results will be used to compare payors within a field or area. Payors falling outside ranges may be targeted for further review.

Other Deductions: Other deductions, such as severance taxes, will be reviewed to determine compliance with regulatory requirements. In addition, as characteristics of each deduction are learned, the system will verify validity.

This process is a fundamental change in current royalty management techniques. Currently, each royalty reporting line is subjected to as many as 16 different automated verification routines, that run at different times and are researched by different employees. Royalty reporters can be contacted numerous times by different RMP employees for different reasons on the same reported line. The reporter may submit a correcting line for one element in error and trigger a different set of exceptions. Research results and compliance status are not shared among employees or stored for wider corporate use. Additionally, the same report line could again be reviewed in audit. Instead of reviewing hundreds of thousands of royalty lines per month, the proposed process has RMP focus on about 26,000 producing leases, perform the necessary work to ascertain and gain compliance, and store the results in data bases accessible on an RMP corporate basis.

In addition to the targeted properties, RMP will conduct reviews to verify the accuracy of the data received from all sources (payors, operators, other independent sources, etc.). The RMP will also perform random targeting of properties. These techniques will assist to challenge the assumptions used within the process and increase the confidence that royalties are correctly reported and paid.

The producing area approach will give RMP the ability to better manage Federal and Indian leases. The RMP will have the capacity to predict ranges for "expected" values to enable analysts to timely determine the reasonableness of a royalty payment. This results from RMP employees' abilities to learn and better understand, on a current basis, the business operations of the industry which it regulates, and the regional anomalies within the industry. A focus on properties instead of lines provides a better measure as to whether or not revenues are paid correctly. Furthermore, the approach better positions RMP to make timely and informed decisions regarding whether production royalties should continue to be taken in-value or the in-kind option should be pursued.

2.4 Solid Minerals Compliance

The solid mineral end-to-end process will also analyze the data elements used in the royalty calculations, as described in the dynamic data verification process envisioned for oil and gas leases. In addition, solid minerals compliance processes will incorporate some unique compliance strategies:

Expected Data Elements

The following discussion describes the approach that is envisioned to establish "expected" data elements.

Volume: Volumes are checked by a number of independent parties: mine operators, railroads, and purchasers. The RMP plans to obtain data from non-affiliated parties to verify data elements reported. Some potential independent volume comparisons include:

- The railroads ensure that volumes are properly tracked and billed. The purchaser and seller also verify the receipt and sale of volumes based on independent measurements at the mine and the final destination.

- States certify scales used by the mine, railroads, and purchasers. States usually perform quarterly certification inspections and require adjustments if inaccuracies are found.

- The BLM monitors production and inventory at the mine during their quarterly inspections and quarterly production verification procedures.

The RMP will monitor volumes by examining beginning and ending inventories, production, and sales for the month in question.

Expected Unit Price: A weighted average unit price based on contract briefs obtained from each operator. Contract briefs will identify prices, minimum and maximum delivery tonnages, and the duration of contracts with each purchaser.

Expected Royalty Rate & Lease Allocation Factor: Populate the expected royalty rate and compare to actual reported royalty rates. The allocation at a lease level will be monitored using the inverse relationship between sales value and royalty rate. The RMP will also monitor lease allocation for inventories, production, and sales.

Transportation & Washing Allowances: Incorporate trending results to compare transportation or washing rates used within a region or for a specific commodity. Payors falling outside the ranges may be targeted for further review.

Information obtained by the teams to establish the "expected" data elements for a commodity may vary by region.

An automated statistical analysis of unit values and allowance rates within a region will be developed to compare to reported values and rates for other mines within the region. Unit values and allowance rates outside of the range will be identified for further review.

2.5 Other Verification Process Features

The design team identified other areas to improve the compliance and asset management process. This includes using trending analysis results,

modifying timing of verification, performing verification on blocks of time, and establishing a compliance indicator.

Use Trending Analysis Results

The teams will use trend analysis to array prices, allowances or other elements within a geographic area. Trending may occur within a lease, agreement, field, or other element. Comparisons can be made between leases, agreements, payors, or other elements. This will provide a comparative look at payors, as well as a historical perspective of property or payor characteristics. Trending will be used in conjunction with the dynamic data verification process to determine accuracy of royalty payments.

Modify Timing of Verification

Significant gains in efficiency can be achieved by determining the best time for the dynamic data verification process to occur. Based on the design team's analysis, it appears adjustments peak during the first three to four months following the sales month. Therefore, verification should probably not occur before the fourth month following the sales month. Analysis prior to this time would appear futile given the volatility of royalty reporting. Further, certain RSFA reporting requirements may impact the timing of verification work.

Perform Verification on Blocks of Time vs. a Single Month

The design team recommends analyzing larger blocks of data to see if there is a natural cycle for analysis. Previous MMS studies demonstrated that efficiencies would be gained if multiple data months were simultaneously analyzed.

Compliance Indicator

Once the dynamic data verification process is complete on a property, an indicator will be established to record the period the property was found to be in compliance. Although RMP's goal is to complete all compliance activities within 3 years of report date, RSFA allows 6 years for adjustments to be made. The compliance indicator is necessary for RMP to monitor changes to a property that has been closed for review, but remains within the 6 year adjustment period. Should changes occur that negatively impact the level of compliance on a property, the system would notify the team to research the validity of those changes. Finally, RMP will be able to conclude that accurate payments have been made for a property in total.

2.6 Select Lease Term Verification

In addition to the regional dynamic data verification process described above, a reengineered process must include timely enforcement of lease terms and regulatory requirements. Current routines determine if certain lease terms (rent, minimum royalty, advance royalty, diligent development coal requirements and deferred bonus) have been met for oil and gas and solid mineral leases. Other routines identify:

- Late Payment
- Indian Over-Recoupment
- Unauthorized Severance Tax

These verification efforts will continue in the reengineered business process.

Additional routines will be developed to check the validity of transportation and processing allowances, account for lease level

payments for leases in a logical mining unit, and perform majority pricing and dual accounting analysis, etc. These include:

- Transportation allowance deduction on certain offshore Section 6 leases. Lease terms specifically disallow transportation deductions on these leases. The RMP personnel will populate the system with a Section 6 indicator.

- Processing allowances taken against processed gas. Generally, processing allowances can only be taken against gas plant products.

- Identify any adjustments past the RSFA 6 year adjustment period.

- Lease level obligations for solid mineral leases included in a logical mining unit. Current processes do not accurately reflect the due date when it is different than the logical mining unit effective date.

- Unique analysis required to ensure majority pricing, dual accounting, nonstandard Indian lease terms and net profit share lease terms are complied with.

These verification routines could be performed independently and before the dynamic data verification process begins. If an exception(s) is identified, the system will generate a bill. In the prototyping phase of the reengineering initiative, RMP will need to determine if the basin teams should pursue these issues or if the routines should be managed by a centralized group. Industry representatives have stated they would like these issues identified as early in our processing as possible.

2.7 Enforcement

The compliance and asset management processes described here is envisioned to culminate in the financial process of issuing bills and pursuing collection. A strong enforcement process will continue to enable RMP to timely collect payments and gain mineral revenue compliance.

2.8 Expected Benefits

By organizing and performing the compliance and asset management process on a geographically focused property basis instead of a line basis, RMP can reduce duplication of effort, increase compliance coverage of the lease universe, determine whether or not a property is in compliance overall, and document that fact. A process oriented approach eliminates redundant activities. It also increases efficiencies by analyzing the property one time and reduces calls or correspondence to companies. Improving the timing of the verification process and verifying more than one month at a time improves timeliness of verification without reducing benefits. It uses RMP staff resources more effectively while maximizing verification outcomes. Finally, it detects systemic issues more easily and reduces RMP and company research. Capturing and using the knowledge that teams gain about a region or property improves identification of problems by combining system and human knowledge and reduces requests to

companies for duplicate information. Using third party data provides additional independent assurance as to the accuracy of reported data while reducing, but not eliminating, the need to obtain documentation from operators/payors. Using trend analysis results provides a bigger picture view of the property by field, payor, etc., and provides comparisons between payors. The compliance indicator reduces possibility of duplication of efforts and provides a mechanism to monitor activity on a property once compliance activities are complete. The improvements put RMP in a position to proactively and timely react to changes in industry practices, and also make timely asset management decisions as to whether to collect royalties in-value or in-kind.

3 Enhance Mission Performance

Apply technology to existing and new business processes to enhance mission performance.

The Royalty Management Program (RMP) has managed to do its job successfully for a number of years with existing processes and automated systems. However, aging core systems based on older technologies, new and expanding mission requirements and reengineered business processes compel RMP to pursue new system applications and technologies. The reengineering team, with technical assistance from Performance Engineering Corporation (PEC) is recommending a new technology foundation for future RMP operations.

PEC prepared two documents to assist RMP in developing a vision of future technology support. The first was the RMP Technical Assessment. It examined the current technical environment and its ability to support the reengineered future. The second was the RMP Alternatives Analysis which examined possible technical options.

Proposed technical alternatives are based on the preliminary process design concepts presented in previous sections of this document. While the emphasis is on new technologies, existing system capabilities will not be overlooked as business processes and technology options are finalized. In fact, RMP has explored and introduced many of the technologies under consideration. Work will continue to refine the business processes and ensure that the development of appropriate technical solutions is aligned with RMP business objectives. Reengineering concepts, implementation alternatives and the various products and technologies presented will be further explored and tested in the coming months.

3.1 Information Technology Environment Findings

The Department of the Interior's Office of Inspector General (OIG) recently conducted an audit of RMP automated systems. This study found aging systems which increasingly fail to meet RMP requirements. The systems have definitely exceeded expected system life spans. Federal Information Processing Standards contain criteria for systems which are good candidates for redesign. Of the eleven characteristics of such systems, the OIG report concluded that RMP systems met eight including:

- Code over seven years old
- Overly complex program structure and logic flow
- Systems that fail frequently
- Difficulty keeping capable maintenance personnel
- Excessive resource requirements
- Hard coded parameters which are subject to change
- Seriously deficient documentation

- Missing or incomplete design specifications

The work done by PEC confirmed the need for new systems. It also reinforced some of the concerns about the adequacy of existing systems raised by the design team, RMP management, external auditors and others.

Principal findings regarding RMP's existing technical environment include:

- **The RMP's IBM compatible mainframe system will continue to be used, but its role will likely change over time.**

  New computer applications will be necessary to support reengineered business processes. The mainframe may not be the optimal environment in which to execute modernized systems designed to replace original applications that are more than a decade old. For example, legacy data will not transition easily to a relational database environment, which was identified as a need in a reengineered setting. As a result, the mainframe may take on a new role as a data store for legacy data and a host for commercial off-the-shelf applications.

  To meet the changing functional requirements such as those envisioned by the design team, or to respond to new legislative requirements like delegation of RMP responsibilities to States or Tribes, requires modernized systems. The systems must be portable, flexible and efficient. These attributes are not evident in today's centralized mainframe environment. A mix of mainframe (centralized) and client-server (decentralized) based systems needs to be explored.

- **The network (LAN/WAN/PC) infrastructure will support RMP's reengineered business requirements.**

  The RMP has a state-of-the-art local area network and desktop environment that is well positioned to support current functionality and future requirements.

- **Electronic data and data relationships are inadequate.**

  The assessment of current applications revealed that many pieces of data are spread among internal applications as a direct consequence of long-term application evolution. The PEC found many examples of stand alone applications that were developed to filter and massage data extracted from mainframe-based mission systems. This is symptomatic of applications that no longer meet user's business requirements. Proliferation of such "work arounds" jeopardizes efficiency and can compromise internal controls. The PEC observed that a relational database management system can establish the flexibility and efficiency needed by RMP business system users.

- **Full deployment of a workflow system is needed.**

The RMP has introduced workflow management software into its systems architecture. Widespread deployment and use has yet to occur. An integrated workflow system that supports reengineered business processes and can handle a high volume of transactions, manage a variety of data types and provide sophisticated routing and audit trails will eliminate many of the tickler files and individual tracking systems used by RMP employees today. Further automation of business workflows, consistent with the envisioned end-to-end processes, will also improve coordination of activities within the RMP.

- **Mid-tier application/data servers are an option.**

  The modernized applications are envisioned to include a variety of technologies and products. To optimize performance and provide for scalable growth consideration of an "n-tier" architecture is recommended. This differs from a client/server architecture in that multiple servers may support a particular business function. For example, accounting and production data may be maintained on the mainframe while billing and debt collection are performed on another server, and query and reporting are performed on distributed database servers. As capacity demand grows for a particular subsystem, an
  "n-tier" architecture can be modularly upgraded. Timeliness, accessibility, and system functionality can improve as a result of this added layer.

- **Better electronic interfaces between RMP and other DOI organizations and customers are needed.**

  While Electronic Data Interchange and other means of electronic commerce are being used, RMP and its customers can benefit from increased use of electronic data exchange. Speed, improved accuracy, and expedited processing are immediate benefits of improved electronic interfaces.

- **The RMP reengineering efforts offer the opportunity to integrate solids and geothermal business processing into an overall RMP business process.**

  Although there are subtle differences in processing and managing oil, gas, solid minerals, and geothermal leases and royalties, the RMP reengineering initiative provides an unprecedented opportunity to integrate common elements of the organizations and their business processes into a unified information technology environment.

The design team seeks a technical environment that responds to these findings and overcomes the barriers inherent in RMP's present technical architecture; one that capitalizes on modern database and other technologies to build a sturdy foundation for informed data and management analysis.

3.2 Implement a Comprehensive Technology Solution

The alternatives available to the RMP as it considers future information systems are:

- Maintain the status quo and continue business as usual.
- Modify existing applications by enhancing the current information systems and applications to support reengineered processes.
- Implement new applications and technologies.

While some of the existing applications and technical infrastructure can be retained, the most viable alternative is for RMP to move forward with new applications and technologies. Based on the analysis contained in the RMP Technical Assessment and Alternatives Analysis, the best technical approach to implementation of these new applications and technologies is a hybrid configuration that combines the best features of a centralized mainframe environment with those of a fully distributed client/server structure. Final functional design specifications and associated requirements analysis will ultimately determine the most appropriate systems architecture and the optimal mix between mainframe and client/server capabilities.

The specific technologies under consideration include:

- **A Relational Database Management System**
  Used to maintain data and data relationships.
- **Workflow and Case Management**
  Used to assign, route, and track work within RMP and to manage a "case" which may involve many aspects of lease management from receipt of royalty and production reports to verification of compliance.
- **Internet, World Wide Web, and Intranet**
  Used by customers, RMP staff, and other agencies for inquiries, data dissemination and data entry.
- **Interactive Voice Response Systems (IVR)**
  Used by customers for touch tone telephone inquiries, data collection, and call routing to appropriate basin teams.
- **Imaging and Optical/Intelligent Character Recognition**
  Used to convert paper documents received by RMP into a readable electronic format. Consideration will be given to a comprehensive document management system for data/document/image storage, archival, and retrieval.
- **Index and Search Tools**
  Indexes the imaged paper documents and allows RMP staff to conduct context and text queries.
- **Date Warehouse**

A repository of aggregated data obtained from other databases and used by RMP staff to perform analysis.

- **On-line Analytical Processing Tools**
  Used in conjunction with a Relational Database Management System and data warehouse to analyze data and perform ad hoc queries.

- **Geographic Information Systems (GIS)**
  Used to aggregate and analyze basin data.

- **Electronic Data Interchange/Electronic Commerce (EDI/EC)**
  Methods and systems to exchange information electronically.

Before developing any system, a requirement gathering process is necessary. The next several months will be spent translating preliminary design concepts and these technology recommendations into final designs. Based on the work done to date, the previously described technologies can be implemented in phases that will span a period of approximately three years. There are many ways to introduce the contemplated system changes into the RMP environment. The following paragraphs describe one possible phased implementation scenario for these technologies. For a more detailed discussion, refer to the RMP Alternatives Analysis.

3.2.1 Phase I – Core Components

In Phase 1 fundamental core systems would be implemented. It is important to put the cornerstone technologies in place first, because they form the foundation for implementing the remainder of the applications supporting the reengineered business model. The functionality implemented in this phase includes the relational database management system, the workflow system, and new financial systems. Phase I would be implemented in three separate builds to subdivide the deployment into manageable steps. These builds implement core applications and database resources that would be enhanced and augmented in subsequent phases. Note that the individual builds need not be performed in a strictly serial fashion, and would in fact overlap.

3.2.2 Phase II – Enhanced Data Capture and Management

During Phase II, systems and software applications would be added to the software and system foundation delivered in Phase I. Phase II is divided into four builds. These builds involve enhancements to or implementation of the relational databases, front-end applications to deliver case management functionality, image capture, internet/intranet interfaces, and EDI/EC functions, respectively. While the majority of the new hardware would be installed during Phase I, the imaging would be procured and installed during this phase.

3.2.3 Phase III – Advanced Data Collection and Analysis

Phase III focuses on providing statistical analysis tools and on-line analytical capabilities via a data warehouse, and building the core IVR system. The end of the phase would focus on enhancing data output activities with additional IVR capabilities. The IVR hardware would be procured during this phase.

3.2.4

Phase IV provides further enhancements to the analytical processing and data collection business functions. A GIStool would be integrated into the environment. Any hardware specific to the GIS tools would be installed

Phase IV – GIS and Enhanced IVR

during this phase. Also during this build, the IVR system would be enhanced to accommodate the collection of data. This effort requires additional integration with the information in the interactive data network (i.e., the full spectrum of developed databases).

3.3 Implement Design Team's Technology Recommendations

The technology infrastructure solution described in the preceding paragraphs represents a new environment for RMP. It encompasses the specific technical recommendations made by the design team. These are:

- Implement a relational database which uses modern tools to give users greater access to data and improves reporting capabilities in a windows environment.
- Use the new database with on-line tools so that information does not have to be recreated on the desktop.
- Build systems that are efficient, flexible, scalable and which will accommodate delegation of RMP functions.
- Implement a commercial off-the-shelf accounting system, which will comply with government standards for accounting systems and satisfy all internal control requirements.
- Implement a workflow/case management system which automates many of the tracking and processing activities currently performed manually.
- Expand electronic communication with other agencies to greatest extent possible. Explore EDI/EC, internet, e-mail and automated clearinghouse functions.
- Exploit internet technologies to ease the burden of transmitting information.
- Expand imaging. Require lockbox operators to send imaged copies of checks and payments. Enhance methods to scan existing hardcopy documents into the system and develop a comprehensive approach to document storage, archival and retrieval.
- Use technology to ease checks and balances by maintaining an audit trail of who makes financial entries and corrections in the system.
- Make the system available electronically to payors and operators.

4 Streamlined Reporting

Streamlined reporting will have short- and long-term benefits for RMP and industry.

The design team analyzed current information reporting requirements to confirm the presence of data that will be needed to support future Minerals Management Service's (MMS) Royalty Management Program (RMP) processes. The design team identified opportunities for easing reporting burden, avoiding data duplication, decreasing error rates, and increasing processing efficiency. Building upon the Royalty Policy Committee's (RPC) earlier study, each royalty, production and solid mineral report was reviewed. Questions were raised about reported data such as:

- Is this information necessary and how will it be used?
- Will it support reengineered business processes?
- Can it be obtained or utilized more efficiently?

Applying these questions, the design team developed 15 oil and gas royalty and production reporting changes and 17 solid mineral royalty and production reporting changes. The reporting changes include eliminating some reports, streamlining the required data elements on other reports, and modifying some report formats. If all changes are implemented, they will significantly reduce the volume of lines reported and processed, minimize errors and related error correction workload, simplify reporting and lower costs for both reporters and RMP. Further analysis of reporting needs is continuing during the prototyping and piloting phase of the reengineering initiative to confirm final recommendations on reporting.

4.1 Eliminate Payor Information Form

A payor submits a Payor Information Form (4025 or PIF) to identify the type of payment they will make (rent, minimum royalty, royalty) and the specific lease, revenue source, product(s), and selling arrangement(s) they intend to report on their Report of Sales and Royalty Remittance (MMS-2014). The RMP assigns the revenue source, product, and selling arrangement codes and confirms the information to the payor. About 25,000 PIF's were processed by RMP in FY 96 at a cost of $452,000.

However, payors do not always submit accurate and timely PIF information. Payors repeatedly state that the PIF is difficult to understand, burdensome to prepare, and unnecessary. They are frequently confused as to how RMP assigns revenue source codes and how they are to be used to report royalties. Numerous errors are detected when the data reported to the Auditing and Financial System (AFS) is compared to the data reported to the Production Accounting and Auditing System (PAAS) because the payor reported the incorrect revenue source code. Approximately 40 percent of the monthly rejected MMS-2014 lines are caused by revenue source, product, or selling arrangement code errors. This causes delays in the distribution of funds.

We recommend the PIF be eliminated. We believe the PIF can be eliminated without sacrificing reporting accuracy or integrity by incorporating the following:

- Require oil and gas royalty payors to report the MMS converted lease and agreement number. The MMS has developed a unique numbering system to accommodate the Bureau of Land Management (BLM) or the Bureau of Indian Affairs (BIA) assigned numbers. The payor simply reports the MMS converted lease and agreement number on the MMS-2014 and this action eliminates the need for a PIF to establish a code for the reporting line.

- Eliminate selling arrangement reporting on Federal leases.

- Use historical MMS-2014 data to identify rent and minimum royalty payors.

The RPC recommended the PIF be simplified.

4.2 Royalty Reporting Improvements

Compliance and asset management processes discussed in Section 2 depend upon the accuracy of the MMS-2014 data. The design team has discussed various ways to improve the accuracy of the data and to simplify reporting requirements for industry. We believe that all of the current data is not needed, but have not determined what combination of data is best or what the final report format will look like. We are still researching and analyzing some of the recommendations, such as eliminating selling arrangements to ascertain their impact on Indian lease term requirements. The design team developed the following series of recommended MMS-2014 reporting modifications that would apply to both Federal and Indian lease revenues, unless otherwise noted. The design team will further study a variety of proposed options, including the capability of accommodating well-level reporting, and any others that are developed during the prototyping and piloting phase of the reengineering initiative.

4.2.1 Report Net Adjustments

Currently, when a payor corrects a royalty line, they must reverse the entire original line and report an entire correct line. This practice requires both RMP and industry to maintain detail monitoring of the "last line" reported and accounts for a large number of the lines reported by industry and processed by RMP.

We recommend reporting prior period adjustments on a net basis. Net basis is defined as the incremental positive or negative volume/value change for a single report line. A two-line adjustment would continue as a requirement if original key data elements are incorrect; such as, lease number, agreement number, product code, or sales month.

The RPC concluded that net reporting:

- Reduces the number of prior period lines reported by industry and processed by RMP by 50 percent.

- Reduces the number of lines maintained in both industry and RMP history databases.

- Significantly reduces the number of original line adjustment monitoring exceptions occurring.

4.2.2 Single Line Reports

The current process requires reporting volumes and values on one line, transportation allowance deductions on a second line, and processing allowance deductions on a third line. This doubles and triples reporting for key data elements.

We recommend reporting transportation and processing allowance deductions on the same line as volumes and values. Adding columns to the MMS-2014 for transportation and processing allowance deductions on the same line as the volume and values allows the key data elements to be reported once for all related transactions. Single line reporting can reduce the number of MMS-2014 lines reported, processed, and verified by approximately 875,000 lines each year. It will also streamline and improve the accuracy of the payor's initial reporting of deductions by automatically assigning the transportation and processing allowance deductions to the associated royalty value. This recommendation is consistent with RPC recommendations.

4.2.3 Report Converted Lease and Agreement Number (Oil and Gas)

The Accounting Identification (AID) number consists of a ten-digit lease number, converted from the BIA/BLM or Offshore Minerals Management (OMM) lease number, followed by a three-digit revenue source code. The three-digit revenue source code identifies whether the royalty payment is attributable to lease level or agreement level production and is utilized in the AFS/PAAS comparison. As described earlier, we recommend eliminating the PIF to establish the AID.

We recommend use of the ten-digit MMS converted lease number and ten-digit RMP agreement number in place of the AID. Industry representatives stated that they would prefer using MMS converted numbers for oil and gas leases because the BIA/BLM/OMM assigned numbers have varied over time and may consist of as many as 25 digits.

4.2.4 Eliminate Selling Arrangement

The selling arrangement was originally designed to identify the disposition of a product at a time when prices were regulated and most sales were made under long term contractual market commitments. With deregulated pricing and new marketing practices, such as pool pricing and spot market sales, the selling arrangement in many cases no longer accomplishes its designed purpose. Selling arrangement detail for Indian leases is still needed for the purposes of major portion price and dual accounting calculations. Selling arrangements are controlled by payors and established by submitting a PIF. However, in many cases selling arrangements are no longer accurate, current, or relevant.

At this time, the design team is recommending eliminating selling arrangement reporting for Federal leases. All sales for a single product, in any given month, would be reported at a weighted average price on a single line. This change results in fewer lines reported, fewer reporting errors, and less storage space for maintaining lease histories. Industry practices are at this level and in the case of spot sales and pooled pricing, industry is already combining multiple sales to one line on the MMS-2014. Based on a sample of the top 21 payors for one year, we estimate that eliminating selling arrangement reporting reduces the number of lines reported and maintained in both industry and RMP history databases by 438,000 and eliminates industry and RMP processing and manual review costs associated with selling arrangement error correction.

The design team is continuing to study reporting levels for Federal and Indian leases during the prototyping/piloting phase of the reengineering initiative to develop the alternative that best supports future reengineered business processes.

4.2.5 Combine Transaction and Adjustment Reason Code (Oil and Gas)

Transaction codes (TC) are used to identify the type of payment, deduction, or credit reported on the MMS-2014. These codes also trigger certain system processes to post payments and identify the type of payment on the explanation of payment. Adjustment reason codes (ARC) also trigger certain system processes including edits. The RMP currently has 27 transaction codes and 24 adjustment reason codes; each consists of a two-digit code.

We recommend creating a three-digit combined TC/ARC code. The first two digits may be numeric. The third digit may be alpha/numeric to support a zero default for original lines and an alpha character for adjustments. For example, an original royalty due line may be reported as a code of "010," an adjustment would be reported as "01A." The specific number, definition, and edits for each TC/ARC combination will be determined in detail design.

Should legislation dictate, this scheme allows for up to twenty-six separate combinations for each TC. The combined three-digit code should reduce the amount of data required for reporting as well as eliminate redundant data reporting.

4.2.6 Volume, Value, and Quality Data (Oil and Gas)

Payors currently report sales quantity, sales value, royalty quantity, royalty value, and quality measurement to RMP monthly on the MMS-2014. The RMP uses this data in a variety of ways and at different times to verify that royalties have been properly calculated.

Traditionally, payors have had difficulty determining the correct sales quantity and value to report on their MMS-2014. Depending on their source document, they may only have access to royalty quantity and royalty value figures. The pressure base may be incorrect. The royalty value may be net of deductions, and both royalty quantity and royalty value may be at an agreement rather than lease level. Under this scenario, a payor typically *imputes* sales quantity and sales value by dividing the royalty quantity and royalty value by the lease royalty rate. This frequently results in errors and causes needless additional work for RMP personnel and industry. Payors also fail to report quality measurements or report inaccurate quality measurements which makes it difficult to perform valuation monitoring.

The issue before the design team is how RMP gets the royalty data it needs to ensure compliance with applicable laws and regulations? One option is to eliminate both sales quantity and sales value and require reporting of royalty quantity and royalty value only. The RMP could calculate a sales quantity and value, royalty rate, and price per unit.

Another option is to use a formula on the MMS-2014 which may be more meaningful to payors than the current format. The basic formula is:

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[(Sales Quantity x Price Per Unit) – (Transportation & Processing Costs)]
x Royalty Rate = Royalty Due
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This format supports an AFS/PAAS type comparison and explanation of payment requirements. It provides a price per unit and transportation and processing allowance values for trending.

The design team will study these options and any others that are developed during prototyping and develop final recommendations.

We anticipate that quality measurement will be required on the royalty report. However, in order to assure the reliability of the information, cases of noncompliance must be pursued in a timely manner.

The RPC recommended the sales and royalty quantity be retained, sales value be eliminated, and royalty value be renamed "net royalty payable." The RPC also recommended a modification to quality measurement reporting. It recommended that quality measurement be reported for oil and Indian gas only and a Royalty MMBTU/Gallons column be used to report Federal gas.

4.2.7 Report Royalty Volumes on an MMBTU Basis (Gas)

Industry measures gas production volumes on an MCF basis and measures quality on a BTU basis. When gas is sold, the sale and settlement is most often based on MMBTU. Royalty payors currently report gas volumes on an MCF basis with a BTU quality measurement on MMS-2014. Occasionally, payors fail to make the MCF conversion from one pressure base to another, fail to convert the BTU quality measurement for pressure base changes, or fail to convert both. The result is volume discrepancies between production reports and royalty reports and skewed prices per unit.

The design team recommends payors report gas volumes on an MMBTU basis and continue reporting the BTU quality factor on MMS-2014. This requirement eliminates pressure base conflicts and provides a meaningful price per unit for comparison with purchaser settlement statements, pipeline imbalances, balancing agreements, and other prices within the same field or area for trending purposes. Reporting royalty volumes on an MMBTU basis and continued reporting of gas quality measurement allows for a comparison between royalty reports and production reports utilizing either report.

4.2.8 Eliminate Estimated Payments

The estimated payment process allows lessees to file an estimated payment with RMP and thereby change their monthly royalty payment due date from the end of the month following the month of production to the end of the second month. Due to the varying lease revenue recipients, the current process requires that an estimated royalty payment be made and maintained at the lease level. The RMP processed approximately 54,000 estimate report lines in FY 96. However, our analysis does not show a reduced number of adjustments although payors have the additional 30 days to gather and report royalty data. We believe that the estimate payment process can be simplified or eliminated and will further examine the alternatives.

The RMP interest software, billing modules, and reporting requirements are unnecessarily complicated by the use of estimates. The passage of the Royalty Simplification and Fairness Act preserved the concept of estimated payments, and authorized RMP to pay interest on Federal lease overpayments. We believe that, with RMP now paying interest on overpayments, the benefits of estimates for industry have diminished significantly.

The RPC recommended additional study of the options for reporting estimates, including billing for estimate interest. Two committee suggestions are:

- Reporting estimates at the State/beneficiary level.
- Offsetting overestimates and underestimates before billing interest.

The RPC concluded that the detailed level of reporting is an administrative burden to industry and often requires payors to maintain large monthly overpayments at a company level to prevent interest bills at the lease level.

4.2.9 Consolidate Rental Reports to the Courtesy Notice

Except for solid mineral leases, we recommend that rental transactions not be reported via the MMS-2014. All oil and gas rental payments, for both Federal and Indian producing leases, are recommended to be made via the courtesy notice. Rental payments on nonproducing Indian leases would continue to be paid directly to BIA.

Currently, rental payments must be paid via the courtesy notice on *terminable* leases; i.e., nonproducing leases that can be terminated for nonpayment of rent. However, payors can report and pay their *nonterminable* leases, nonproducing leases that can not be terminated for nonpayment of rent, via a courtesy notice or on the MMS-2014. This mixture of reporting options has caused some confusion for industry and RMP.

The design team's recommendation envisions that approximately 75 days prior to the due date, AFS would generate a courtesy notice. These notices would be sent to payors electronically. Payors would return the courtesy notice and payment to RMP. We believe this change will simplify reporting for industry and reduce the confusion on which type of rentals to report and pay using the MMS-2014.

4.3 Production Reporting Improvements

Various production data is collected and processed by RMP. Two distinct production volume report formats exist today. Most operators must submit the Monthly Report of Operations (MMS-3160) for onshore leases and agreements and the Oil and Gas Operations Report (MMS-4054 or OGOR) for offshore lease production. Only a few operators utilize the OGOR to report onshore production. Currently the entire MMS-3160 must be resubmitted to add or amend any data on the original report. This requires rekeying all the data for paper reporters and increases system processing time for all reports. The following recommendations significantly streamline the production reporting requirements.

4.3.1 Eliminate Form MMS–3160 and Simplify the OGOR

We recommend that the MMS-3160 be eliminated and all onshore and offshore production be reported on a simplified OGOR. The OGOR requests ten more data elements than the MMS-3160. Of those ten elements, four are column totals that can be populated by the system. Two more, the operator assigned lease name and lease number, are identification fields in the header of the OGOR and are not requested on the MMS-3160. They would be optional for onshore properties on the revised OGOR. Two others, metering point and storage facility number, are data elements that would also be optional for onshore properties, since unlike OMM for offshore properties, BLM does not assign these numbers to onshore properties. Onshore reporters would have the option to leave these data elements blank, or to populate them with the company assigned numbers.

Two data elements, disposition code and inventory adjustments, are currently reported on the MMS-3160 as well, but the current report format doesn't clearly communicate production volume dispositions. Volume dispositions are identified for only seven basic reporting situations. More than 40 complex issues must be reported in the unedited "Other" disposition field with written explanations, that cannot be analyzed by the system, in the "Identify" and "Comments" data elements. Reporting the same data in the OGOR edited fields would clearly communicate the disposition of production volumes, allow for enhanced system analysis, and reduce company contacts to resolve spurious AFS/PAAS exceptions.

The RPC recommended that RMP review and modify the MMS-3160 amended reporting process. The Committee also recommended some changes to the required data elements in the MMS-3160. Lastly, the RPC also recommended some parts of the OGOR be eliminated and some minor modifications to required data elements.

4.3.2 Eliminate the GAR and Redesign the GPOR

The gas analysis data that is reported on the Gas Analysis Report (MMS-4055 or GAR) is data that is reported to the property operator by a gas plant operator on a gas plant statement for a property. We recommend, that in the future, RMP receive a copy of the gas plant statement for the property from the operator on a request basis. This approach would eliminate the current routine collection of GAR's from property operators.

The Gas Plant Operations Report (MMS-4056 or GPOR) can be simplified by eliminating the analysis section of the report. In lieu of the analysis data, we would require an additional "quality" field and five component product volume fields. We would add a field called "Field Volume Btu" and would clarify that the existing Btu field is for residue gas. Volume fields would be added for natural gas liquid's (Gallons), carbon dioxide (MCF), nitrogen (MCF), helium (MCF) and sulfur (Long Tons). The pressure base for all elements reported on the GPOR would be defined

as 14.73 psia. We recommend that the simplified GPOR be required monthly, from each operator of a gas plant that processes gas produced by Federal or Indian leases, units, or communitization agreements. This includes production from onshore properties, as well as from offshore properties.

The RPC recommended the GAR be modified to include streamlined amended reporting similar to the OGOR. The Committee also recommended some minor changes to some data fields.

4.3.3 Auxiliary Reports

Auxiliary production reports such as the Production Allocation Schedule Report are being analyzed by the design team for modification or elimination.

4.4 Solid Minerals Reporting Improvements

The solid mineral design team also identified numerous opportunities for easing reporting burden, avoiding data duplication, decreasing error rates, and increasing processing efficiency. While some similarities exist in streamlining reporting requirements for oil and gas and solid mineral leases, there are some differences in compliance requirements that the solid mineral report process design must accommodate. The solid minerals design team has researched various ways to improve the accuracy of the data and to simplify reporting requirements for industry and developed the following recommendations:

4.4.1 Consolidate Reports

We recommend that the following six solid minerals royalty and production reporting forms be eliminated and that streamlined data elements be collected on one report.

- Report of Sales and Royalty Remittance (MMS-2014)
- Payor Information Form (MMS-4030)
- Mine Information Form (MMS-4050)
- Solid Minerals Operation Report (MMS-4059)
- Solid Minerals Facility Report (MMS-4060)
- Facility and Measurement Information Form (MMS-4051-S)

Since mining companies are both operator and payor for the mine, solid mineral lessees would simultaneously report production, sales, allowances, and royalty obligations on a single report. The design would be flexible and allow a lessee to report using commercial software packages and potentially integrate the report into their existing internal operating procedures. The format for reporting would be simple and would incorporate only those data elements necessary for RMP to meet its reengineering objectives. The report form would collect data on royalty and production, allowances, and other payments. We also recommend electronic report submission would be mandatory.

The RPC recommended the MMS-4059 be partially modified and partially eliminated. The committee also concluded that MMS-4060 be partially modified and partially eliminated.

4.4.2 Collect Data at the

We recommend that RMP collect all Federal, Indian, fee and State production data for the logical mining unit or permitted area. The mine is the primary unit on which

Mine Level

most of industry's accounting and operational procedures are based. The RMP reporting and compliance processes would parallel industry operations. Mine level reporting requires that lessees report all Federal, Indian, fee (private) and State production data for the logical mining unit or permitted area. The RMP will then have the data sufficient to monitor total mine activity to ensure compliance on the property.

By following mine level reporting, lessees can elect to have RMP's system allocate sales tonnages and revenues to leases for royalty computation or allocate their sales to the appropriate leases themselves. The advantage of lessees allowing RMP's system to calculate the allocation of sales to leases -- and subsequently calculate the royalty obligation -- is the elimination of lessee reported data elements. Lessees have stated calculating royalty obligations based on production ratios is a repetitive process and it is more efficient to have RMP's system perform the pertinent calculations rather than the reporters. If RMP performs the allocation this eliminates the need for RMP to confirm the lessee's calculation during the verification process.

Reporting on a mine basis will ease industry's reporting burden while increasing RMP's ability to monitor and insure proper royalty payment. However, since lease terms require lease level payments, rents, etc. and royalties, RMP would maintain lease accounts and require some lease level reporting for financial terms.

4.4.3 Eliminate Codes

The solid minerals design team asked its customers (BLM, reporters and auditors) what improvements they would like to see in a new system. Each customer segment strongly criticized AFS and PAAS as being code-driven and not user friendly. Consequently, we are exploring new report designs that incorporate English instead of transaction codes, product codes, etc.

4.4.4 Report Agency Assigned Lease Number

The design team recommends reporters use BLM/BIA assigned number. This is the number on the lease document and the identifier which is most familiar to BLM and industry. This also accommodates the requirement for an operator to report production data from fee and state lands, and ensures consistency for all interested parties.

4.4.5 Flexible Report Formats

There are many different solid mineral commodities produced on Federal and Indian lands. Each commodity has separate regulations, mining and processing methods, and different marketing arrangements. A flexible reporting system and verification process is envisioned to automate these activities to address each variable.

4.4.6 Accept Only Correct Reports

It will be the reporter's responsibility to submit correct information. Therefore, we recommend that RMP not consider information received until it meets RMP's edit specifications. Reporters would access our edit criteria to determine if their data is correctly formatted. The RMP would provide assistance to reporters on how to report, but RMP would not perform an error correction function. This would significantly reduce RMP's cost of correcting reporting errors, monitoring error rates, and assessing for those errors.

4.4.7 Facility Reporting Requirements

We recommend that mines utilizing processing facilities be required to submit information which demonstrates the efficiency of plant operations. These reports are created within the company or corporation itself. This information would not

place a burden on the company since this report is already created for internal control purposes.

4.5 Future Information Needs

We have identified numerous data elements that are currently collected, but not shared corporate-wide. These elements are an integral part of our compliance and asset management process. The geographic teams will have the ultimate responsibility to determine any additional data elements that are necessary for their area and how often to update information. This information will be gathered over time. It is our goal to improve reliability/confidence of the data and maintain it as part of input tables.

- Arm's-length/non-arm's-length Indicators – These indicators will be maintained for sales, transportation allowances, and processing allowances.
- Oil Type (sweet/sour) and Sulphur Content – While oil type can change over long periods of time, it does not change monthly.
- Applicable Posting/indexes – RMP has access to many oil postings and index publications. Additionally, any other pricing mechanisms for a particular area will be stored online for each team's use.
- Pipeline Information – Leases will be cross-referenced to pipelines which will aid in determining actual transportation costs.
- Sales Contracts & Terms – Contracts can be analyzed on an exception basis. As the contracts are obtained, contract briefs will be maintained online. In addition, the contracts will be available as imaged documents.
- Transportation/Processing Agreements – Transportation and processing agreements will be maintained online. In addition, the agreements will be available as imaged documents.
- Approval for Extraordinary and Excess Allowances – RMP approvals for extraordinary or excess allowances will become part of the lease history and maintained on line.
- Gas Plant Information – The teams will cross-reference leases to plants. Any information obtained, such as gas efficiency factors, will be maintained on line.
- Compliance Indicator – Once a property has been reviewed or the team establishes that the property is in compliance, the system will indicate that the property has been reviewed for a specific time period. This indicator is necessary for RMP to monitor changes to a property that has been closed for review or was determined to be in compliance at a given point in time. Should changes occur that negatively impact the level of compliance on that property, the team should be notified to research the validity of those changes.

- Company Affiliate Relationships – As the teams learn more about the payors in their geographic region, affiliate relationships will be maintained for access by all users.

- Other – Any other information relevant to the geographic area will be maintained online.

4.6 Expected Benefits

Implementation of the reporting recommendations will eliminate redundant data; reduce the number of MMS-2014 transactions reported and processed; reduce the number of lines maintained in both industry and RMP history databases; and reduce the number of original line adjustments and reporting errors. It streamlines and improves the accuracy of the payor's initial reporting of deductions by automatically assigning the transportation and processing allowance deductions to the associated royalty value. It eliminates pressure base conflicts and provides a meaningful price per unit for comparison with purchaser settlement statements, pipeline imbalances, balancing agreements, and other prices within the same field or area.

Simpler royalty and production reporting, fewer forms, and fewer lines reduces costs to RMP as it reduces error correction efforts, streamlines software requirements, reduces storage requirements, simplifies instructions to reporters, reduces the complexity of reporter training sessions, and allows RMP and industry to gain compliance with mineral revenue mandates in a timely manner.

Although detailed analysis will be necessary to determine actual quantitative benefits from these changes, it is possible to make some basic predictions. These recommendations generally incorporate or exceed the RPC Subcommittee on Royalty Reporting and Production Accounting recommendations. The RPC estimated RMP would save $1 to $1.5 million annually by implementing its recommendations. Further, substantial savings believed to be in millions of dollars will also be realized by the industry. These recommendations do not result in any reduction in revenues to the revenue recipients, Treasury, other federal agencies, States, Indian Tribes or Allottees.

5 Performance-based Teams

Implement performance-based teams to ensure mission accomplishment.

The design team recommends that the Royalty Management Program (RMP) utilize performance-based teams to the maximum extent possible in developing the organization to work the end-to-end core business processes. This section presents a high level analysis of a possible future organization. It highlights the organizational implications of the reengineered business processes recommended. Until the process redesign is finalized, the organization design to support it must remain flexible. Concurrent with extensive testing and refinement of the process redesign during the first half of 1998, refinement and testing of proposed organizational strategies and ideas will begin. A key component of the final deliverable for the reengineering effort will be transition and implementation strategies. They will address such things as timing and procedures for melding new processes with systems, strategies for reallocating personnel, job designs, team training plans, mechanisms for transition support, and other implementation considerations. Design team members will identify and give shape to as many of these priority issues as possible over the next six to nine months. While the process redesign is closer to completion, the organization design work is necessarily just beginning and will continue well after the final process redesign has been refined and approved.

5.1 Performance-based Teams

Teams are the typical means of implementing reengineered business processes. The newly reengineered organization would bring together expert personnel from various functional entities to work together in multi-disciplinary teams. Though there would almost certainly be areas within the future RMP where a team concept is not appropriate, it is expected that the majority of operational units could be organized around permanent, performance-based teams. Permanent performance-based teams, in end-to-end business processes, would be responsible for a clearly defined segment of the organization's work or a segment of its customers. They would focus on the same outcomes and have a commonality of purpose. This is different from the current function-based organization in which different functions often have opposing priorities and interests, and little focus on desired outcomes. Team members may or may not be co-located. Today's technology which supports video conferences, meeting support, E-mail, and other interactive processes, permits the formation and effective utilization of performance-based teams whose members are geographically dispersed.

Using performance-based teams in end-to-end business processes makes possible several significant benefits for the organization. Perhaps the single most important benefit of the team concept is that it can help RMP achieve the integration and alignment of the whole organization towards common goals. Individual functions

disappear and teams represent "mini-groups" of the larger organization. The team concept is also key to facilitation of in-depth knowledge of RMP's customers and markets, something lacking in today's processes, despite the best efforts of dedicated RMP personnel. The ability to look at the whole, rather than focusing on highly discrete and disassociated parts, would give RMP new insights and opportunities in effective royalty management. Integrated, multi-disciplinary teams enable improved market knowledge and customer service.

Other benefits RMP can reap from moving to multi-disciplinary, performance-based teams include:

- Increased accountability across the organization.
- Improved individual and joint ownership of RMP success.
- A shift in decision making to the lowest logical levels, providing faster, better service.
- The production of measurable outcomes, which are consistent with organization-wide goals.
- Improved staff morale and commitment leading to increased job satisfaction.
- Increased knowledge sharing and transfer, leading to a more broadly skilled work force.
- A more adaptive organization which can survive a dynamic political, legislative, and economic environment.
- Greater value of the organization's most important assets, its human resources.

5.2 Organization Structure

The envisioned organization features two end-to-end processes in a team environment: financial management and compliance and asset management. Financial management would be payor focused, while compliance and asset management would be property or commodity focused and organized around producing areas. Further analysis will determine how staff and support functions best fit in this structure, i.e., are they independent or part of the end-to-end process. Further analysis will also address the best organizational approach for Indian financial and compliance management activities.

5.2.1 Program Management

To enable efficient end-to-end core business processes that support the RMP business strategy and fulfill reengineering goals and objectives, the organization structure must foster expedited decision making, clear accountability for results, rapid distribution of monies to royalty recipients, and more accurate and timely verification of royalty collections. Just three management layers would be needed: program executives, program managers, and team leader/coaches. This is one layer less than the current function-based organization. Authority would be delegated to the appropriate levels in the organizational structure, most often those closest to the

work being performed, the teams. Non-routine or sensitive decisions can be made by program managers, leaving only those truly exceptional transactions which have precedent-setting, broad implications to be made by RMP's senior executives.

5.2.2 Financial Management

Financial management would address the full range of production and royalty accounting and funds management responsibilities of RMP. It might be divided into three teams, reporting to one financial manager: Accounts Receivable, Accounts Payable and Reporting. Accounts Receivable may include billing, collections, and cash applications. Accounts Payable may include general ledger and distribution and disbursement. Reporting may include document processing and error correction. All financial management may also be further aligned with Indian leases and Federal leases.

5.2.3 Compliance and Asset Management

Compliance and asset management would address the full range of compliance and asset management activities including reference data base management, product valuation, majority price calculations, verification and audit that are necessary to address royalty taken either in-kind or in-value. It may be divided into one or more regions that capture producing areas. Each region may be composed of basin teams reporting to one compliance manager. The basin teams may align and specialize by commodity (oil, gas, etc.) and type of lease (Federal and Indian) under administration. How the regions and basin teams would be defined is dependant on a number of factors including the nature of the producing area, its size and complexity, surface management agency structures, tribal and allotted land locations, State boundaries, etc. Each region is envisioned to have a small number of teams with an average of approximately 15 to 20 members. This addresses the administration's goal of increasing supervisory ratios and follows private industry best practices to increase productivity, creativity and customer service. As process designs are finalized, these organizational concepts will be further analyzed and refined.

5.3 Work Force Considerations

Many RMP staff know in great detail how work is done in their narrow functional areas. Few understand or can describe in detail how the overall mission and work of RMP is done. The reengineering design features end-to-end core business processes. The work force will need time and training to assimilate knowledge about the end-to-end processes, the specifics of the markets in which they are asked to become knowledgeable, and the details and capabilities of the systems infrastructure that will be deployed for their use. The RMP will need to provide substantial knowledge and skill-building education and training on a just-in-time basis preceding and during implementation.

Functional Specialization vs. End-to-End Process

Job descriptions need to be broad and inclusive. Such descriptions will enable employees to continue to learn and grow in knowledge of the end-to-end processes and in providing outstanding customer service. Teams would be encouraged to handle increasingly broader assignments.

Customer Service Skills

The RMP staff who work in the reengineered end-to-end processes will handle a broad range of questions about current business transactions involving any lease for which they are responsible. They will provide answers to questions about RMP's standard business practices based on their knowledge and training. Employees will

be trained in and responsible for using identified best practices for customer service skills.

Professional Development

Individual job responsibilities in the reengineered RMP are envisioned to be broader and more flexible. This does *not* mean that everyone will be a generalist without specialties or areas of particular expertise. Even with broader job duties within a team environment, a trained geologist is still a geologist, and an auditor is still an auditor. Thus, it is important that professional affiliations and activities be supported. People will have their expertise within a field and then broaden it to be able to perform additional tasks by adding skills and knowledge.

In today's RMP, individual expertise exists in many arenas. However, effective knowledge transfer and sharing of that expertise does not occur routinely and systematically. It is a goal and intention of the new organization structure that this expertise, particularly that which relates most closely to core mission duties and objectives, will be extended to a much broader segment of the employee base through improved knowledge management activities and associations.

Training is closely related to the development of effective knowledge management and is viewed as central in the reengineered RMP. In order to keep pace with changing markets, laws, policies, technologies, customer bases, and other dynamic factors, employees need to be engaged in well-organized, actively supported and ongoing training activities. Multiple opportunities for training, both formal and informal, must be developed and made available, and employees must have opportunities to establish mentoring relationships in key areas. Each RMP employee, however, would be expected to assume individual responsibility for learning and skills development, and to actively address training goals and needs with other team members and team leader/coaches. Individuals would also be expected to add value by sharing expertise and information, and helping to teach others.

6 Next Steps for the Reengineering Process

Prototyping and rapid application development techniques allow users to "see" and "experiment" with technical solutions in a fraction of the time of traditional systems development.

This document is the final product of the reengineering preliminary design phase. It represents a crossroads in the reengineering process. The initial research is completed and much data has been collected. The design team has examined RMP business processes and developed preliminary design concepts. What happens next?

Preparatory to completion of final designs, the design team will analyze and test many of the concepts and technologies presented in this document. Much of the analysis will be accomplished through prototyping and piloting. Analysis and prototyping will continue for approximately 6 months, after which reengineering designs will be finalized.

This work will help to:

- Refine the process design
- Demonstrate new technology
- Quantify benefits
- Refine estimates on resource requirements

Performance Engineering Corporation's *Alternatives Analysis* recommends a 3 year development schedule. Sufficient functionality can be delivered after 2 years to begin operating in the new organization with reengineered business processes. However, the eventual start and length of the implementation schedule will be driven by the implementation contract award date and subsequent negotiations with the selected contractor. An RMP Reengineering Contract Support Team is in place to manage budget and acquisition processes involved in moving from design to implementation. The goal of the team is to complete those tasks necessary to award an implementation contract in FY 1999.

Appendix

Reengineering Documents and Related Studies

Charter for the Reengineering of the Royalty Management Program

RMP Technical Assessment - Performance Engineering Corporation, January 1998

RMP Alternatives Analysis - Performance Engineering Corporation, March 1998

Results of the Compliance Action Plan Pilot - March 1995

Final Report, Royalty Policy Subcommittee on Royalty Reporting and Production Accounting - May 1996

Inspector General Audit Report, The Royalty Management Program's Automated Information Systems - July 1997

RMP Reengineering Design Team "As-Is" Process Maps and Analysis

RMP Reengineering Design Team Outreach Session Summaries (Industry, State and Indian Organizations, Employee Groups, etc.)

RMP Reengineering Design Team Benchmarking Visit Summaries

MMS/PMI State Benchmarking Study - February 1997

The National Performance Review MMS RMP Reinvention Laboratory Report - September 1993

The National Performance Review MMS Phase II - January 1995

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